DOCUMENT RESUME

ED 143 887 08 CE 012 962

TITLE	Career Preparation Programs for Potential Agribusinessmen, Agricultural Agency Employees, and Agricultural Instructors. Final Report. July 1, 1976-June 30, 1977.
INSTITUTION	Mississippi State Univ., State College. Dept. of Agricultural Education.
SPONS AGENCY	Mississippi; Office of Education (DHEW), Washington, D.C.
BUREAU NO	D-D-77-3
PUB DATE	30 Jun 77
GRANT	V-D-77-SB-3
NOTE	119p.
EDRS PRICE	MF-$0.83 HC-$6.01 Plus Postage.
DESCRIPTORS	*Agribusiness; *Agricultural Education; Agricultural Production; Career Planning; Curriculum; *Curriculum Development; Inservice Teacher Education; Program Descriptions; Program Development; Program Effectiveness; Program Validation; Secondary Education; *Specialization; *Teacher Improvement; *Vocational Development
IDENTIFIERS	Mississippi

ABSTRACT

The purpose of the project was to develop innovative agricultural education programs within the comprehensive high school setting in selected school districts in the state of Mississippi, with the project's second year (described here) focusing on continuing existing specialized career preparation program in agriculture and continuing to orient teachers toward the following: techniques necessary to successfully plan, develop, implement, and evaluate innovative agricultural career preparation programs which would provide preprofessional preparation; the ability to secure and use technical subject matter, knowledge, and skills necessary for the operation of programs; supervisory, educational, and technical assistance so that the products of the program will have developed skills necessary for entry-level employment or for further career preparation. The project resulted in the establishment of specialized career preparation programs in agriculture in the local schools and stimulated the redirection of programs in the state. The major portion of this document (100 pages) is comprised of appendixes which include (1) detailed outlines for instruction in beef cattle, sheep, and swine and a general sketch of a separate laboratory building for instructional programs in livestock production, (2) sample units of instruction in agricultural supplies and services and a sample individual learning package, (3) outlines of instructional content in seven specialized courses, (4) agendas for teacher workshops, and (5) findings of the third party evaluators. (SH)

Documents acquired by ERIC include many informal unpublished materials not available from other sources. ERIC makes every effort to obtain the best copy available. Nevertheless, items of marginal reproducibility are often encountered and this affects the quality of the microfiche and hardcopy reproductions ERIC makes available via the ERIC Document Reproduction Service (EDRS). EDRS is not responsible for the quality of the original document. Reproductions supplied by EDRS are the best that can be made from the original.

ED143887

Final Report

(July 1, 1976 - June 30, 1977)

Career Preparation Programs for Potential Agribusinessmen, Agricultural Agency Employees, and Agricultural Instructors (continued)

Project No. D-D-77-3 Grant No. V-D-77-SB-3

Project in Vocational Education
Conducted Under
Part D of Public Law 90-576

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

John W. Oren, Project Director
Jasper S. Lee, Co-Director

Mississippi State University
Department of Agricultural and Extension Education
P. O. Drawer AV
Mississippi State, MS 39762

June 30, 1977

OE 612 962

Final Report

Career Preparation Programs for Potential Agribusinessmen, Agricultural Agency Employees, and Agricultural Instructors (continued)

Project in Vocational Education conducted under Part D of Public Law 90-576

The project reported herein is being performed utilizing funds made available to the State of Mississippi under provisions of Part C of Public Law 90-576 administered by the Office of Education, U.S. Department of Health, Education and Welfare.

Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgement in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

John W. Oren, Project Director

Jasper S. Lee, Co-Director

Mississippi State University
Department of Agricultural and Extension Education
P. O. Drawer AV
Mississippi State, MS 39762

June 30, 1977

RECEIVED
AUG 03 1977

OUTLINE FOR PROGRAM PERFORMANCE REPORTS
ADULT, VOCATIONAL, AND EDUCATION PROFESSIONS DEVELOPMENT ACT (EPDA) PROGRAMS

1. PROJECT NO.:	2. GRANT NO.:
D-77-3	V-D-77-SB-3

3. TITLE OF PROJECT: Career Preparation Programs for Potential Agribusinessmen, Agricultural Agency Employees, and Agricultural Instructors (continued)

4. GRANTEE ORGANIZATION:	5. PROJECT DIRECTOR:
Miss. State University Dept. of Agricultural and Extension Educ.	John W. Oren, Jr.

6. PERIOD COVERED: FROM	TO
July 1, 1977	June 30, 1978

7. ACCOMPLISHMENTS *(including significant findings)* DURING THIS PERIOD. *(Key to approved project objectives. For educational personnel training programs, include progress made toward placement of trainees and institutionalization of programs.)*

See Page 1

8. MAJOR ACTIVITIES AND EVENTS.

See Page 6

9. PROBLEMS.* *(Describe any departures, including timing, from the original project plan; discuss special problems encountered or expected.)*

See Page 8

10. PUBLICITY ACTIVITIES.* *(Itemize all newspaper or magazine articles or other published materials about your project. A copy of each item should be attached. List all visits to the project site by educators from other organizations.)*

See Page 8

11. DISSEMINATION ACTIVITIES.* *(Describe method of dissemination; identify recipients of dissemination activities.)*

See Page 8

12. PROGRESS ON DATA COLLECTION AND EVALUATION PLANS AND PROCEDURES.*

See Page 9

13. OTHER ACTIVITIES.*

N/A

14. STAFF EMPLOYMENT AND UTILIZATION.* *(Note any changes in staff personnel or staffing plans by additions, departures, or revisions of percentage of time or other commitments to the project.)*

See Page 10

15. STAFF DEVELOPMENT.* *(Describe any inservice training for teachers, counselors, and supervisors and any other activities of a professional nature for project staff.)*

See Page 11

* IF THERE IS NOTHING TO REPORT IN THIS SECTION, WRITE N/A.

ABSTRACT

OREN, John W. "Career Preparation Programs for Potential Agribusinessmen, Agricultural Agency Employees, and Agricultural Instructors." (Final Report, Project in Vocational Education conducted under part D of Public Law 90-576.) Mississippi State, Mississippi: Mississippi State University, June 30, 1977.

Purpose. The purpose of this project was to develop innovative agricultural education programs within the comprehensive high school setting in selected school districts in the State of Mississippi.

Method. As a continuation of the July 1, 1975 - June 30, 1976, project under the same name, the project in 1977 focused on providing more effective programs of specialized vocational education in agriculture. Methods of accomplishing the objectives included in-service training workshops, individual supervision in the schools, individual instruction of teachers in areas of need, and identifying and/or providing needed instructional materials.

Specialized program areas included forestry, wildlife and natural resources, agricultural supplies and services, horticulture, crops, farm machinery, and livestock. These were identified on the basis of local community needs. These programs were included in or added to regular vocational agriculture curriculums.

The specialized programs were administered through normal administrative channels of the local school systems.

Results. The project has resulted in the establishment of specialized career preparation programs in agriculture in the local schools. This has stimulated the redirection of programs of vocational education in agriculture in the State of Mississippi.

ACCOMPLISHMENTS

The primary goal of this project has been to continue the development and implementation of innovative career preparation programs in agriculture. The project has involved programs in eight high schools located in three school administrative units in the State of Mississippi. The dissemination of information about the programs has stimulated interest in other school systems in the initiation of specialized career preparation programs in agriculture. Enthusiasm for improving on-going programs in vocational agriculture is running high. No doubt, this project has served to kindle much of this enthusiasm.

The accomplishment of the project will be reviewed in terms of each of the objectives in the proposal for the continuation of it.

Objective One. Continue existing specialized career preparation programs in agriculture.

The specialized career preparation programs established during the previous year were continued. Some of the programs received redirection so as to improve on the quality and more adequately meet the needs of the students served. The programs and schools were as follows:

Jones County Horticulture	South Jones High School
Covington County Farm	
Machinery	Mt. Olive High School Collins High School
Livestock Production	Seminary High School Mt. Olive High School
Crop Production	Seminary High School Collins High School
Leake County Forestry	South Leake High School Carthage High School

Wildlife	Thomastown High School Edinburg High School
Agricultural Supplies and Services	Thomastown High School

The horticulture program involved two classes meeting double periods, or approximately two hours per class.

In Covington County, the teachers rotated from one school to another at the end of the first semester. The farm machinery teacher taught at Mt. Olive High School in the fall semester and moved to Collins High School for the spring semester. The livestock production teacher rotated from Seminary High School to Mt. Olive High School and the crop production teacher rotated from Collins High School to Seminary High School, both changes being made at the end of the fall semester. All classes were double periods, or of approximately two hours duration.

The Leake County programs were scheduled to provide for full year programs with the teachers rotating from one school to another during the school day. The forestry teacher taught at South Leake High School in the morning and at Carthage High School in the afternoon. The wildlife teacher taught at Edinburg High School in the morning and Thomastown High School in the afternoon. The agricultural supplies and services program was full time at Thomastown High School. All programs were scheduled for double periods, which amounted to about two hours per class session.

Objective Two. Continue to orient the teachers regarding the techniques necessary to successfully plan, develop, implement, and evaluate innovative agricultural career preparation programs which

are designed to provide pre-professional preparation for agricultural students.

The strategies used in achieving this objective included individual conferences with teachers, mini-seminars with the teachers in each school system, and workshops for teachers, school administrators, and counselors.

Workshops were held in Covington and Leake Counties prior to the start of school. These in-service workshops focused on program planning and development and dealt specifically with the following areas:

organizing and using citizens advisory committees

utilizing manpower agencies

selecting students

selecting instructional techniques and methods

These workshops were jointly planned and conducted by project staff, supervisory personnel with the Vocational Division of the State Department of Education, and local school administrators and teachers.

Mini-seminars were held in Leake and Covington Counties each month of the school year. These seminars brought all vocational agriculture teachers (both regular and special career preparation programs) together for planning, exchange of information, and study of a topic presented to them by a resource person. The following topics were presented in the mini-seminars:

Motivating Turned-Off Students	Joe Ray Underwood, Professor of Guidance, Mississippi State University
Student Organizations: Official Dress and Parent Member Banquets	Johnny Allen and Barry Rhinehart, students at Mississippi State University and past FFA officers

Developing Skills for Employment in Agricultural Occupations	David Kittrell, graduate student and member of project staff
Teacher Morale and Characteristics	David Kittrell

Other events were scheduled in months when mini-seminars were not held. Ralph J. Woodin, former teacher educator in agricultural education at The Ohio State University, was the consultant for the workshop. Project staff and members of the supervisory staff of the Vocational Division, State Department of Education, participated in the workshop.

A workshop for training in the establishment and conduct of supervised occupational experience programs was held in March, 1977. Participants included regular and career preparation teachers of vocational agriculture, school administrators, counselors, supervisory personnel with the State Department of Education, project staff, and faculty members in the agriculture teacher education departments at Alcorn State University and Mississippi State University. The consultant for the workshop was Larry E. Miller of the Department of Agricultural Education at the University of Missouri.

Objective Three. Continue to provide the teachers with the ability to secure and use technical subject matter, knowledge and skills necessary for the operation of programs designed to provide pre-professional preparation for vocational agriculture students.

The achievement of this objective resulted from several approaches. One involved identifying, obtaining, and distributing instructional materials to the teachers. This included printed documents and

audiovisual media. Teachers were instructed in the preparation and use of transparencies for overhead projection.

Another strategy in achieving this objective was to identify problem areas during supervisory visits. The information was obtained and sent to the teachers. In several cases, contact was made with specialists at Mississippi State University. In other cases, contact was made with private industries or government agencies.

Objective Four. Continue to provide supervisory, educational and technical assistance to these teachers so that the products of the program will have developed the career skills necessary for entry-level employment or for further career preparation.

Supervisory visits were made by the project staff to the schools on a monthly basis. In some cases, the visits were more frequently than once per month. Each visit to the schools involved contact with the office of the superintendents, brief conferences with school principals, and discussions with the agriculture teachers.

The consultants used with the project also visited the schools and provided informal responses and direction to the teachers.

Supervisory personnel of the Vocational Division, State Department of Education, and members of the project staff maintained regular contact. This was beneficial in that it helped the supervisory staff provide needed leadership to the specialized programs during their regular supervisory visits.

The specialized areas of livestock production and agricultural supplies and services received considerable attention from project staff. It was recognized that a need existed to further refine these areas, including the development of general plans for laboratory facilities.

Project staff in consultation with teachers, specialists at Mississippi State University, and personnel of agribusiness, have developed guidelines to assist in the development of laboratory facilities for livestock production and agricultural supplies and services. A summary of these efforts is presented in Appendices A and B.

Each teacher of the specialized career preparation programs prepared revised outlines of instructional content. The outlines were originally developed during the first year of the project. Teaching experience, local community adaptation, and staff input were used in making the revisions. The outlines are presented in Appendix C.

MAJOR ACTIVITIES AND EVENTS

The major activities and events were focused around training the persons involved with the project and evaluating the conduct of specialized career preparation programs in the local schools. The training activities for project staff and teachers included mini-seminars and workshops.

Workshops were held in Covington and Leake Counties for all agriculture teachers, principals, and counselors. These were jointly planned and carried out by project staff, state supervisory personnel, and local school personnel. Both workshops were held during the summer prior to the start of classes. Agenda for these workshops are presented in Appendices D and E.

A workshop for project staff on the evaluation of local agricultural education programs was held at Mississippi State University on November 16-18, 1976. The consultant in the conduct of the workshop was Ralph J. Woodin, formerly a member of the faculty in the Department of Agricultural Education, The Ohio State University. Content of the

workshop included determining the features of an evaluation program in vocational agriculture, identifying criteria for evaluating vocational agriculture programs, developing instruments to assist in the evaluation process, and using advisory committees in evaluation.

A workshop on the establishment and conduct of supervised occupational experience programs was held for teachers, local school administrators, counselors, state supervisory staff personnel, and project staff on March 11-12, 1977. The workshop consultant was Larry E. Miller of the Department of Agricultural Education at the University of Missouri. Dr. Miller presented information on the philosophy underlying supervised occupational experience programs, the kinds of programs and procedures for developing them, and the relationships within the school which are needed in order to facilitate the conduct of such programs. A copy of the agenda for the workshop is presented in Appendix F.

A series of monthly meetings was held in Leake and Covington Counties. These meetings were termed mini-seminars and were designed to assist teachers in solving problems critical to the conduct of quality instructional programs in agriculture. The seminars met in the local schools and usually lasted for one to two hours each. Resource persons were used in the seminars. Opportunity was provided for the discussion of local problems and concerns. It was felt that the mini-seminars were important in establishing lines of communication between the specialized agriculture teachers and the regular agriculture teachers.

PROBLEMS

The project was carried out with a minimum of problems. The major problem areas were personnel retention and student selection. The teacher of wildlife and natural resources who started the first year resigned at the end of the year and was replaced. The teachers of farm machinery and crops resigned after the year had started and were replaced.

PUBLICITY ACTIVITIES

The primary publicity activities were those aimed at disseminating information about specialized career preparation programs in agriculture. This involved presentations to groups of teachers, discussions in graduate and undergraduate classes at Mississippi State University, and individual discussions with teachers and school administrators by project staff and supervisory personnel with the State Department of Education. A slide presentation prepared during first year of the project was used with groups as appropriate. The local schools used newspapers and radio in publicizing their programs. Appendix G presents a copy of a photograph which appeared in THE CARTHAGINIAN.

DISSEMINATION ACTIVITIES

The project staff members have been involved in a number of formal and informal dissemination activities. The supervisory staff for agricultural education of the Vocational Division of the State Department of Education has been very active in the dissemination of project developments. The primary dissemination approach has involved small group meetings and face-to-face individual conferences with teachers, school administrators, counselors, and other persons.

All vocational education in agriculture programs in the State of Mississippi are beginning to be influenced by the developments in the project. The greatest impact is on the programs in the local schools. Local programs are being redirected to provide for two years of basic agriculture and two years of specialized career preparation in agriculture.

EVALUATION

Evaluation of the project has been accomplished in two major ways. These involved the use of a third-party evaluation team and a study by project staff of the morale of the teachers.

The third-party evaluation team was comprised of three teacher educators, as follows:

Phillip R. Zurbrick, Associate Professor
Department of Agricultural Education
University of Arizona

Roland L. Peterson, Associate Professor
Division of Agricultural Education
University of Minnesota

James H. Mortensen, Assistant Professor
Department of Agricultural Education
The Pennsylvania State University

The procedure involved discussions with project staff and on-site observations of teachers, students, and facilities in the local school systems. Teachers of the specialized career preparation programs met with members of the evaluation team and discussed the programs they were conducting. The evaluation team used the "Standards for Quality Programs in Agriculture/Agribusiness Education," as developed by the Agricultural Education Department at Iowa State University, in the conduct of the evaluation. These standards were developed as part of a national project funded by the U.S. Office of Education. The team made its observations on May 9, 10, and 11, 1977.

The findings of the evaluation team with regard to the project in general are presented in Appendix F. The findings of the team for the schools involved are published in three separate reports. These are:

Report of the Third-Party Evaluation Team: Specialized Career Preparation Programs in Vocational Agriculture in Covington County, Mississippi

Report of the Third-Party Evaluation Team: Specialized Career Preparation Programs in Vocational Agriculture in Leake County, Mississippi

Report of the Third-Party Evaluation Team: Specialized Career Preparation Program in Vocational Agriculture in Jones County, Mississippi

The study of the morale of the vocational agriculture teachers involved with the project was accomplished with the Purdue Teacher Opinionaire. The scores of the project teachers were compared with a group of vocational agriculture teachers not involved with the project. The findings of this evaluation are presented in Appendix I.

OTHER ACTIVITIES

No other activities are reported.

STAFF EMPLOYMENT AND UTILIZATION

The members of the staff of the project were as follows:

Project Director	John W. Oren, Jr., Head and Professor Department of Agricultural and Extension Education Mississippi State University
Project Co-Director	Jasper S. Lee Department of Agricultural and Extension Education Mississippi State University
Graduate Assistants	Jackie L. Nordan David L. Kittrell Department of Agricultural and Extension Education Mississippi State University

STAFF DEVELOPMENT

The members of the staff of the project have participated in several professional development activities. These were accomplished as a part of the project and as activities separate from the project. Some of the staff development activities involved the direct participation of the staff. Other activities were of an independent nature and involved observation and study of program development and leadership in agricultural education. Some of the training activities in which the staff members have participated are as follows:

Regional Conference on Standards for Quality Programs in Agricultural/Agribusiness Education

Southern Agricultural Education Conference

American Vocational Association Annual Meeting

Observation of agricultural education programs in other states

Participation as members and consultants on national committees and boards

Enrollment in graduate-level professional education courses

Participation in research and education seminars

Appendix A

PLANS FOR LEARNING ACTIVITIES AND LABORATORY FACILITIES IN LIVESTOCK PRODUCTION

(Includes detailed outlines for instruction in beef cattle, sheep, and swine; lists of references for the areas of livestock production; and a general sketch of a separate laboratory building for instructional programs in livestock production.)

Outline of Instructional Content in Beef Cattle Production

I. Classifying Beef Cattle According to Breeds and Showing Characteristics of Each Breed

- A. European Breeds
- B. Indian Breeds
- C. U. S. Developed Breeds
- D. Exotic Breeds

II. Establishing the Herd

- A. Purebred Cattle
- B. Commercial or Cross Cattle

III. Selecting Beef Cattle

- A. Selection Based on Individuality or Appearance
  - 1. Judging Beef Cattle
  - 2. Traditional Scorecard System
  - 3. Functional Scoring System
- B. Animal Performance
- C. Production Testing
  - 1. Performance Testing
  - 2. Progeny Testing
- D. Selection Based on Pedigree
- E. A System of Selection
  - 1. Tandem Selection
  - 2. Independent Culling Level
  - 3. Selection Index

IV. Breeding Beef Cattle

- A. Anatomy
  - 1. Female Reproductive System
  - 2. Male Reproductive System
- B. Puberty, Estrus, and Breeding
  - 1. Male
  - 2. Female
- C. Gestation
- D. Pregnancy Testing
- E. Artificial Insemination
- F. Parturition
- G. Fertility Testing of Bulls

V. Feeding Beef Cattle

- A. Essential Nutrients
- B. Digestive Systems of Cattle
- C. Planning and Balancing Rations
- D. Identifying Grains and Feeds
- E. Hand Mixing of Individual Rations

F. Mixing Bulk Rations
G. Feeding the Breeding Herd
H. Finishing for Slaughter
I. Winter Feeding of Beef Cows
J. Growth-Promoting Substances Used in Fattening Beef Cattle
K. Simple Rules of Thumb for Cattle Feeding
L. Winter Grazing for Stocker Cattle
M. Pre-Conditioning Beef Cattle

VI. Handling and Management Practices

A. Breeding Management
1. Age to Breed Heifers
2. Breeding Season and Time of Calving
3. Advantages of Spring-Dropped Calves
4. Advantages of Fall-and Winter-Dropped Calves
5. Seasonal Versus Year-Round Breeding
6. Purebred Cattle Calving Dates
7. Care of the Cow at Calving Time
8. Feeding and Management of Herd Bulls
9. Weaning of Calves
10. Number of Replacement Heifers to Keep

B. Handling Practices
1. Castration
2. Dehorning
3. Identification
4. Vaccination and Sanitation
5. Determining the Age of Cattle by the Teeth
6. Weighing Cattle
7. Working Cattle
8. Foot Trimming

C. Keeping Records
1. Cow Production Records
2. Breeding Records
3. Performance Testing Records
4. Identification Records
5. Marketing Records

VII. Evaluating Building and Equipment for Beef Production

A. Barns and Sheds for Cattle Shelters
B. Feed Storage
D. Fences
D. Gates and Cattle Guards
E. Cattle Handling System
1. Pens
2. Working Chute
3. Headgate and Squeeze
4. Tilting Table
5. Scales
6. Loading Chutes
F. Watering Facilities

G. Feeding Equipment for Cow-and-Calf Operations
   1. Hayracks
   2. Feed Bunks
   3. Molasses Troughs
   4. Self-Feeders
   5. Calf Creeps
   6. Mineral Feeders

VIII. Keeping Beef Cattle Healthy

A. Identifying Diseases of Cattle
   1. Background
   2. Cause
   3. Age Affected
   4. Symptons
   5. Spread
   6. Prevention
   7. Treatment
B. Identifying Internal Parasites of Cattle
   1. Prevention
   2. Treatment
C. Identifying External Parasites of Cattle
   1. Prevention
   2. Treatment

IX. Exhibiting Beef Cattle

A. Selecting Show Cattle
B. Feeding for the Show
C. Equipment for Fitting and Showing Cattle
D. Training and Grooming for the Show
E. Showing Beef Cattle

X. Marketing Beef Cattle

A. Market Prices (How Determined)
   1. Supply of Cattle
   2. Consumer Demand
   3. Variation in Marketing Costs
   4. Goverment Policy
B. Methods of Marketing Cattle
C. Preparing and Shipping Cattle
D. Market Classes and Grades of Cattle
   1. Factors Determining Market Classes of Cattle
   2. The Market Grades of Cattle

References for Beef Cattle Production

Ensminger, M. E. Beef Cattle Science. Danville, Ill.: The Interstate Printers and Publishers, Inc., 5th Edition, 1976.

Fowler, Steward H. Beef Production in the South. Danville, Ill.: The Interstate Printers and Publishers, Inc., 1969.

Blakely, James and Bade, David H. The Science of Animal Husbandry. Reston, VA.: Reston Publishing Company, Inc., 1976.

Animal Health Handbook. New York, New York: Charles Phizer and Company, Inc

Galloway, Joseph H. Farm Animal Health and Disease Control. Philadelphia, PA.: Lea and Febiger, 1972.

Jurgens, Marshall H. Applied Animal Feeding and Nutrition. Dubuque, Iowa: Kendall/Hunt Publishing Company, 3rd Edition, 1974.

Outline of Instructional Content in Sheep Production

I. Classifying Sheep According to Breeds and Showing Characteristics of Each Breed

- A. Fine Wool Breeds
- B. Medium Wool Breeds
- C. Long Wool Breeds
- D. Crossbred Wool Breeds
- E. Carpet Wool Breeds
- F. Fur-Sheep Breed

II. Selecting Sheep

- A. Judging
- B. Pedigree
- C. Production Testing
- D. Animal Performance
- E. Ewe Selection
  1. Adaptation
  2. Prolificacy
  3. Lambs Easily
  4. Mothering Ability
  5. Sufficient Milk Production
  6. Disease and Parasite Resistance
  7. Satisfactory Growth
  8. Extended Breeding Season

III. Breeding Sheep

- A. Anatomy
  1. Female Reproductive System
  2. Male Reproductive System
- B. Puberty
- C. Estrus
- D. Anestrus
- E. Gestation
- F. Factors Affecting Fertility in Ewes
  1. Heredity
  2. Age of Puberty
  3. Age of Ewe
  4. Light, Temperature, Relative Humidity, and Season
  5. Association with the Ram
  6. Nutrition
  7. Disease and Parasites
- G. Parturition
- H. Pregnancy Testing
- I. Artificial Insemination
- J. Fertility Testing of Rams
- K. Multiple Lambing

IV. Feeding Sheep

- A. Digestive System
- B. Nutrient Requirements
- C. Essential Minerals
- D. Formulating Lamb Rations
- E. Nutrition of the Ewe
- F. Rations for Feeder Lambs
- G. Nutrition of the Ram
- H. Effect of Nutrition on Wool Production

V. Handling and Management Practices

- A. Breeding Management
- B. Handling Practices
  1. Moving Sheep
  2. Catching
  3. Setting up
  4. Drenching
  5. Identification
  6. Vaccination
  7. Docking
  8. Castration
  9. Foot Care
  10. Shearing
  11. Starting the Lamb
- C. Keeping Records
  1. Ewe Production Records
  2. Breeding Records
  3. Performance Testing Records
  4. Identification Records
  5. Marketing Records

VI. Evaluating Buildings and Equipment for Sheep Production

- A. Buildings
  1. Sheep Barns
  2. Sheep Sheds
- B. Equipment
- C. Fences
  1. Dogproof Fences
  2. Electric Fences

VII. Keeping Sheep Healthy

- A. Identifying Diseases
- B. Identifying Internal Parasites
- C. Identifying External Parasites

VIII. Exhibiting Sheep

IX. Marketing Sheep

A. Marketing Decisions
B. Pricing and Competition
C. Market Grades of Lambs

Outline of Instructional Content in Swine Production

I. Classifying Swine According to Breeds and Showing Characteristics of Each Breed

- A. Old Established Breeds
- B. New Breeds

II. Establishing the Herd

- A. Type
  - 1. Meat-type
  - 2. Lard or Bacon
- B. Purebred
- C. Grade
- D. Crossbreds

III. Selecting Swine

- A. Judging Swine (Eye Appraisal)
- B. Selection Based on Pedigree
- C. Animal Performance
- D. Production Testing
  - 1. Performance Testing
  - 2. Progeny Testing
- E. A System of Selection
  - 1. Tandem Selection
  - 2. Independent Culling Level
  - 3. Selection Index

IV. Breeding Swine

- A. Anatomy
  - 1. Female Reproductive System
  - 2. Male Reproductive System
- B. Puberty and Estrus in Swine
  - 1. Female
  - 2. Male
- C. Breeding for Maximum Litter Size
  - 1. Age to Breed Gilts
  - 2. Time of Breeding
  - 3. Hand Mating Versus Lot Mating
  - 4. Flusing of Gilts
- D. Gestation of Swine
- E. Signs of Approaching Parturition
- F. Care at Farrowing
- G. Rebreeding After Farrowing
- H. Care of the Boar
- I. Artificial Insemination in Swine

V. Feeding Swine

A. Digestive Systems of Swine
B. Essential Nutrients
   1. Protein Needs
   2. Energy Needs
   3. Mineral Needs
   4. Vitamin Needs
   5. Anti-Microbial Agents
   6. Water Needs
C. Feeds for Swine
D. Planning and Balancing Rations
E. Feeding Young Pigs
F. Feeding Growing and Finishing Pigs
G. Feeding Replacement Gilts
H. Feeding Gestating Sows
I. Feeding Breeding Boars
J. Feeding Lactating Sows

VI. Handling and Management of Swine

A. Management Systems
   1. Pasture Versus Confinement Hog Production
   2. Gilts Versus Older Sows
   3. Two-Litter System Versus One-Litter System
   4. Multiple Farrowing
   5. Weaning
   6. Grouping
      a. According to Sex
      b. According to Age
      c. According to Size
B. Feeder Pig Production
C. Growing and Finishing Hogs
D. Handling Swine
   1. Clipping the Boar's Tusks
   2. Removing the Needle Teeth
   3. Identification
   4. Castration
   5. Ringing
   6. Vaccination
   7. Sanitation
E. Modern Ways of Handling Manure
F. Keeping Records
   1. Sow Production Records
   2. Breeding Records
   3. Performance Testing Records
   4. Identification Records
   5. Marketing Records

VII. Evaluating Buildings and Equipment for Swine

A. Buildings
   1. Portable Houses for Pasture Systems
   2. Portable Multi-Use Houses for Pasture-Confinement Systems

3. Permanent Multi-Use Houses for Pasture-Confinement Systems
4. Confinement System Houses
   a. Farrowing House
   b. Nursery, Growing, and Finishing Houses
   c. Gestating Houses
   d. Requisites of Confinement Swine Housing
5. Slotted Floors
   a. Slotted Floor Construction
   b. Partially Slotted Floors
6. Manure Management

B. Feed Storage
C. Fences
D. Lagoons for Manure Disposal
E. Equipment
1. Breeding Crate
2. Creep
3. Heat Lamps and Brooders
4. Farrowing Crates or Pens
5. Loading Chute
6. Self-Feeder
7. Shade
8. Troughs
9. Vaccinating and Castrating Rack
10. Wallows; Sprinklers
11. Waterer

F. Space Requirements of Buildings and Equipment

VIII. Keeping Swine Healthy

A. Identifying Diseases of Swine
1. Background
2. Cause
3. Age Affected
4. Symptoms
5. Spread
6. Prevention
7. Treatment

B. Identifying Internal Parasites of Swine
1. Prevention
2. Treatment

C. Identifying External Parasites of Swine
1. Prevention
2. Treatment

IX. Exhibiting Swine
A. Selecting Show Animals
B. Feeding for the Show
C. Equipment for Fitting and Showing Swine
D. Training and Grooming for the Show
E. Showing Swine

2.

X. Marketing Swine

A. Methods of Marketing Hogs
B. Preparing and Shipping Hogs
C. Market Classes and Grades of Hogs
    1. Factors Determining Market Classes of Hogs
    2. The Federal Grades of Hogs

References

Engminger, M. E. Swine Science. Danville, ILL.: The Interstate Printers and Publishers, Inc., 4th Edition, 1970.

Bundy, Clarence E. and Diggins, Ronald V. Swine Production. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 3rd Edition, 1970.

Blakely, James and Bade, David H. The Science of Animal Husbandry. Reston, VA.: Reston Publishing Company, Inc., 1976.

National Hog Farmer. St. Paul, MN.: Swine Information Service, 1976.

Animal Health Handbook. New York, New York: Charles Phizer and Company, Inc., 1965.

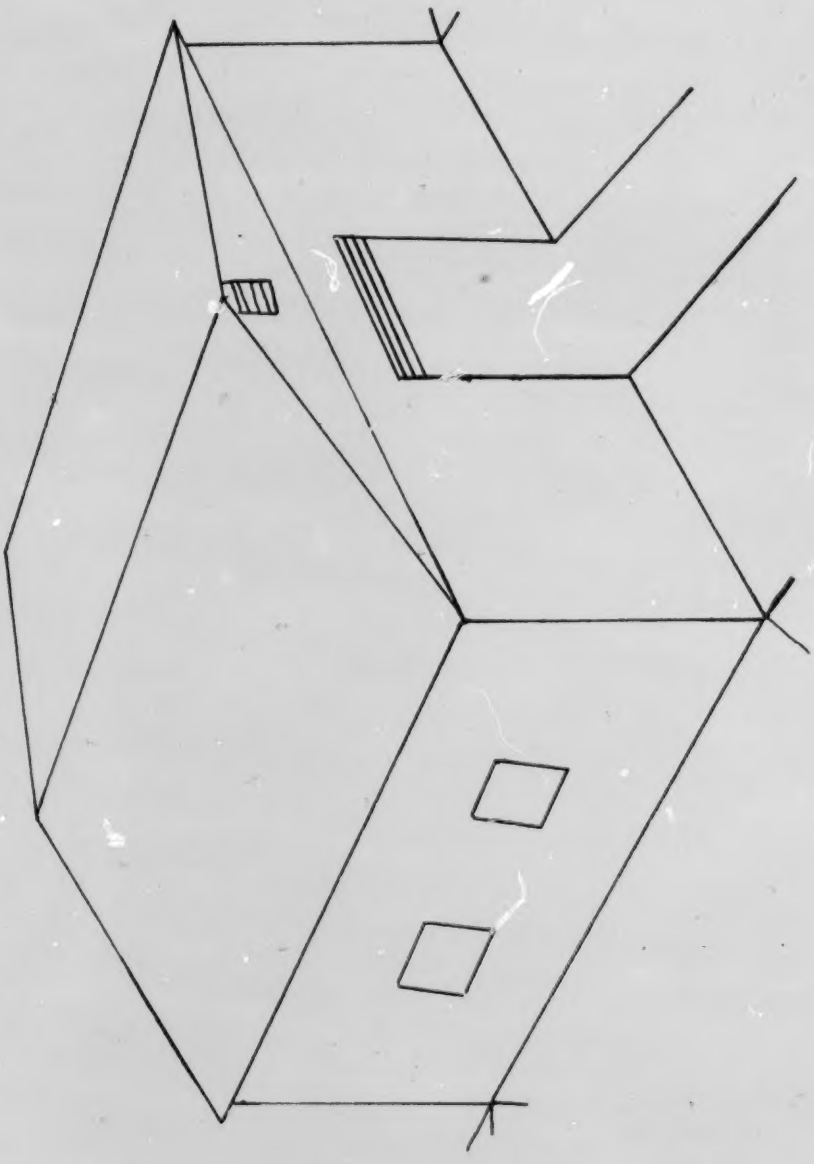
Galloway, Joseph H. Farm Animal Health and Disease Control. Philadelphia, PA.: Lea and Febiger, 1972.

Jurgens, Marshall H. Applied Animal Feeding and Nutrition. Dubuque, Iowa: Kendall/Hunt Publishing Company, 3rd Edition, 1974.

Exterior View of a Laboratory Building

for

Instructional Programs in Livestock Production

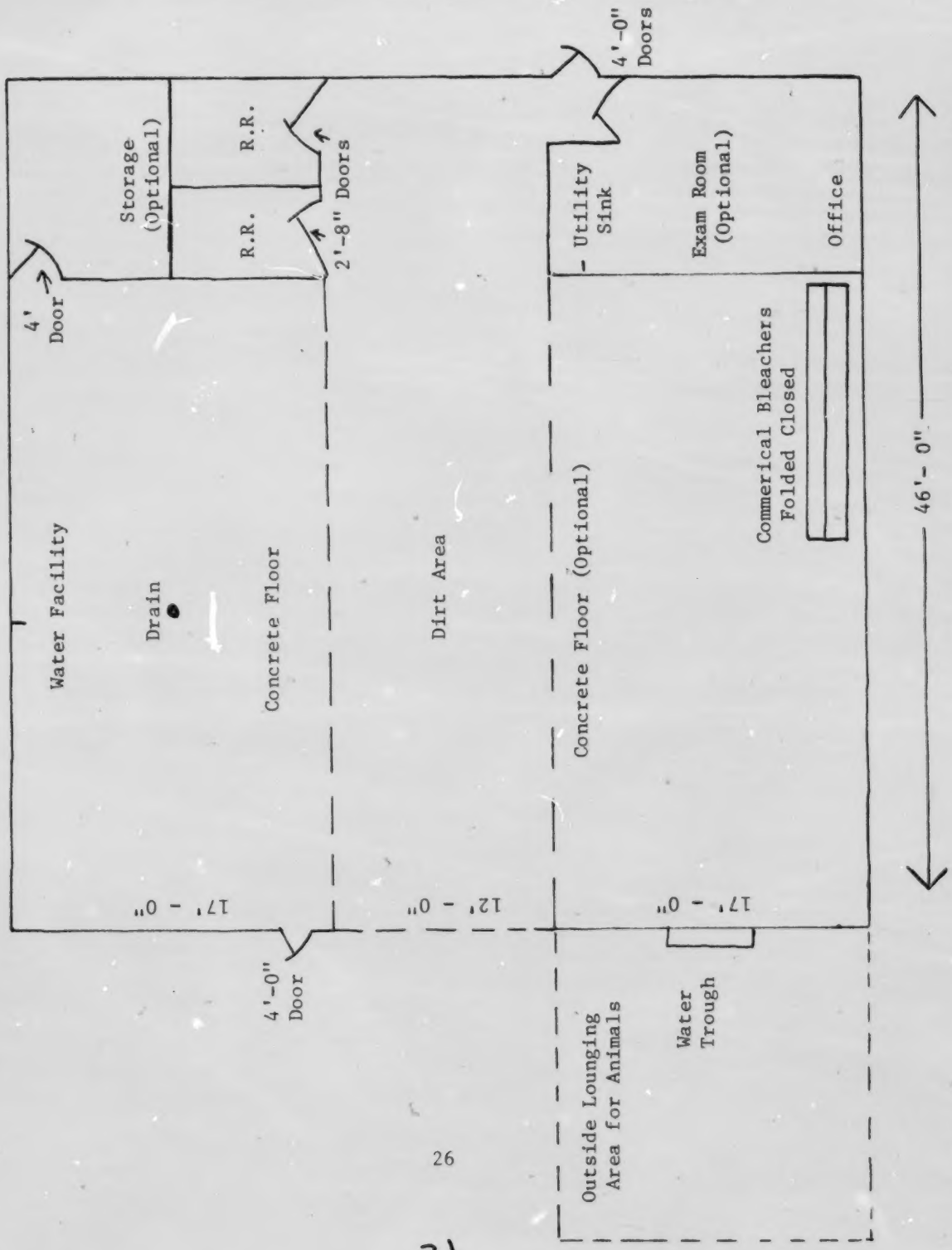


MULTIPLE - USE BUILDING

Floor Plan of a Laboratory Building

for

Instructional Programs in Livestock Production



31

Appendix B

PLANS FOR LEARNING ACTIVITIES
AND
MINI-LABORATORY
IN
AGRICULTURAL SUPPLIES AND SERVICES

(Includes units of instruction, mini-laboratory design, and sample individual learning package.)

Sample Units of Instruction
in
Agricultural Supplies and Services

Determining ways of doing business
Determining the feasability of an agricultural supplies and service business
Locating the site
Financing the business
Managing the business
Securing labor
Obtaining facilities and fixtures
Locating suppliers
Establishing business policies and procedures
Maintaining customer relations and human relations
Keeping records
Warehousing and storing
Advertising and displaying
Selling
Inventorying
Providing for customer financial needs
Transporting and handling materials

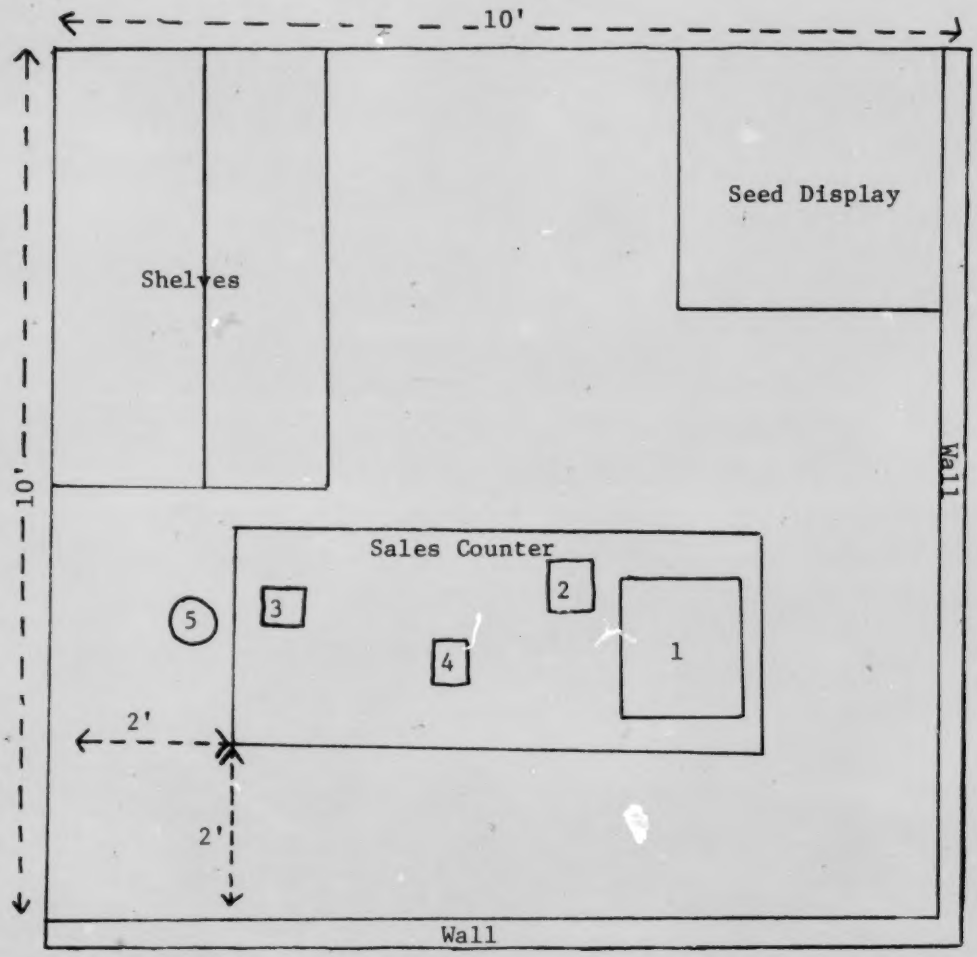
Sample Units of Instruction
in
Operating a Retail Business
in
Agricultural Supplies and Services

Determining customer needs
Making sales approaches
Writing a sales ticket
Calculating sales tax
Using a cash register
Using an adding machine
Making change
Using the telephone
Using scales
Determining price
Using credit plans
Stocking supplies
Setting up displays
Interpreting labels
Taking inventory
Preparing advertisements
Making bank deposits
Obtaining business permits

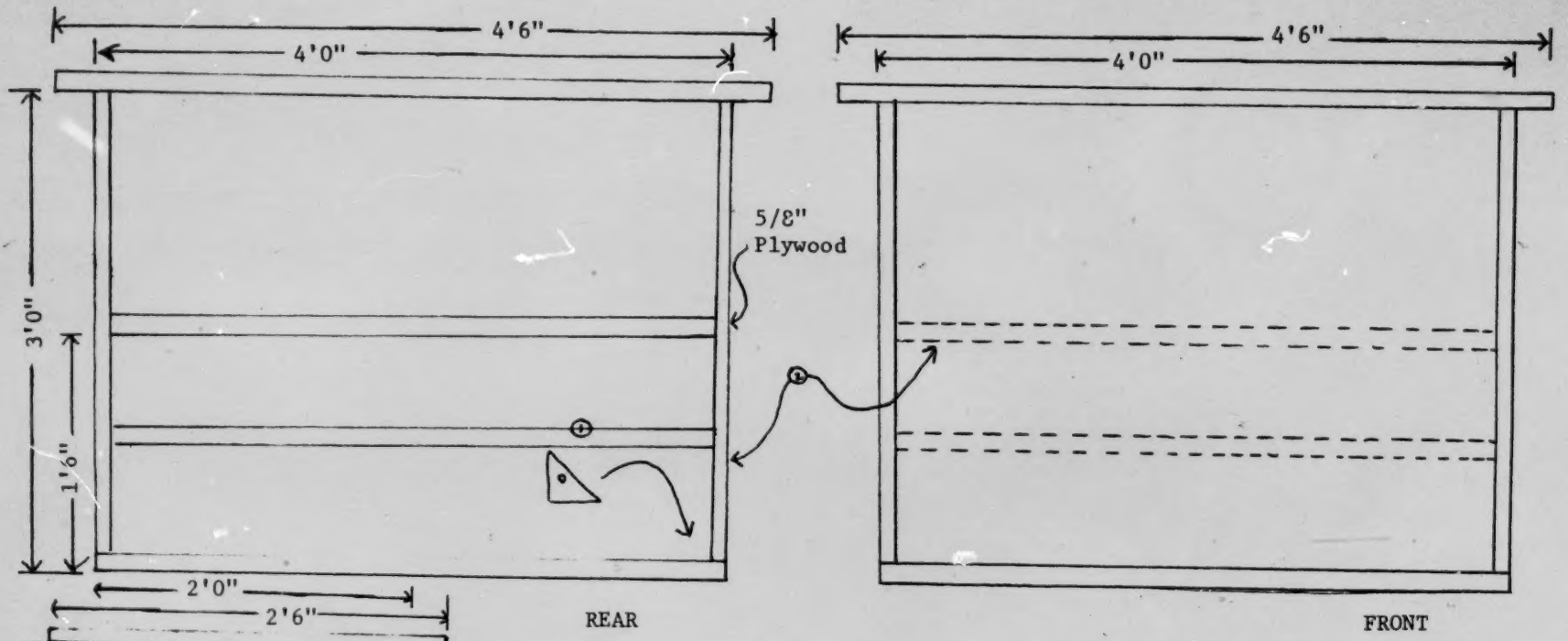
MINI-LABORATORY

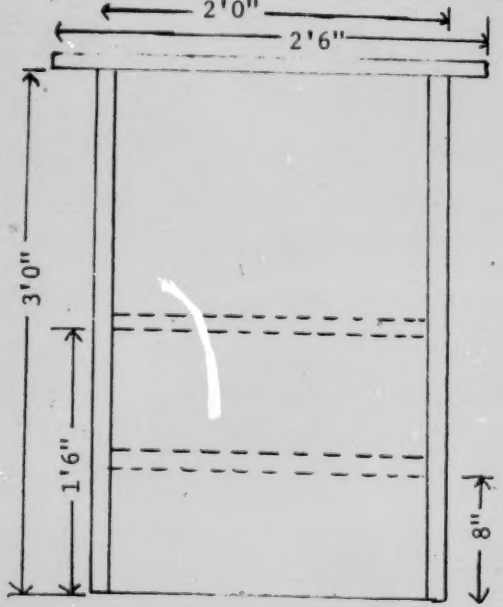
Agribusiness Retail Supplies/Services

Space needed: An area 10 feet X 10 feet square with two electrical outlets. This may be in the corner of a classroom or mechanics laboratory. Below is a floor plan using the 10' X 10' area with two walls. (100 sq. ft.)

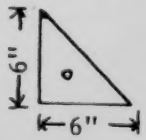


Fixtures: Sales Counter (see sketch on next page)
Display Shelves
Seed Display
Cash Register (shown as item 1 on sales counter)
Adding Machine (printing) (shown as item 2 on sales counter)
Telephone (shown as item 3 on sales counter)
Ticket Register Machine (shown as item 4 on sales counter)
Hanging Scales (shown as item 5 at scales counter)





SIDE



1 - Corner pcs. 4 used to brace and hold rollers

2 - Panel is used on three sides

BILL OF MATERIAL

1 Sheet Masonary Board 54" X 28"
1 4' X 8' Sheet 1/4" Pannelling
1 4' X 8' Sheet 5/8" Plywood
18 Feet of Counter Ridge 7/8"
8 Feet of Corner Mold
3 2 X 4 - 8 Feet Long
8 Feet of 1/4 Round
4 Rollers

SCALE 1" = 1'

SAMPLE

Learning Package

WRITING A SALES TICKET

A Mini-Laboratory Learning Activity
in
Agricultural Supplies and Services

Developed by
David Kittrell

Edited by
Jasper S. Lee

Department of Agricultural and Extension Education
Mississippi State University
Mississippi State, Mississippi

1977

WRITING A SALES TICKET

Table of Contents

I. Instructions

II. Pre-test

III. Purpose and Objectives

IV. Learning Unit

V. Post-test and Activities

I. Instructions for Learning About Writing a Sales Ticket

The steps to follow in completing this unit are:

A. Take the Pre-test.

B. Read the Purpose and Objectives.

C. Study the Learning Unit on Writing a Sales Ticket.

D. Take the Post-test.

E. Evaluate your procedure in Writing a Sales Ticket.

II. Pre-test

Writing a Sales Ticket

A. Directions

1. Obtain the following materials:

a. Pencil

b. Use the following information

(1) Date - January 17, 1978

(2) Name - Fred January (customer)

(3) Address - Route 4, Box 86-C, Sulton, Florida 33303

(4) Items

(a) One can of paint @ $1.32 each

(b) Two bags of 6-8-8 fertilizer @ $1.75 each

(c) Three pounds of nails @ $.45 per pound

(5) Tax - $.31

(6) Cash sale

2. Take the Pre-test

3. Evaluate your procedure

B. Purpose of the Pre-test

1. To see if you can write a sales ticket

C. Pre-test

1. Complete the blank sales ticket on the next page including all the above information and items being bought.

SALES TICKET

Date:

Name:

Address:

Sold by:	Cash:	Charge:	On Account:

Quan	Item	Price	Amount	
	Subtotal			
	Tax			
Signature:	Total			

SALES TICKET

Date: January 17, 1978

Name:

Address: Rt. 4, Box 86-C, Sulton, Fl. 33303

Sold by:	Cash: X	Charge:	On Account:

Quan	Item	Price	Amount	
1	Can of paint	1.32	1	32
2	Bags of 6-8-8 fertilizer	1.75	3	50
3	Pounds of nails	.45	1	35
	Subtotal		6	17
	Tax			31
Signature:	Total		6	48

III. A. Purpose

The purpose of this learning package is to develop the ability to correctly write a sales ticket.

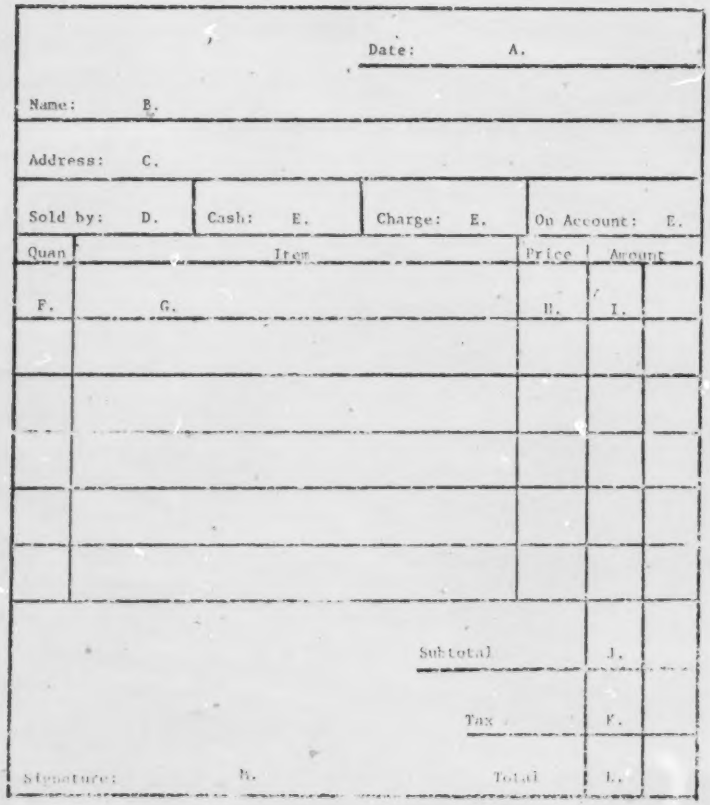
B. Objective

Upon completion of this learning package, you will correctly write a sales ticket when provided with the necessary information.

IV. Learning Unit

A.

Observe	Read and Follow



Date: A.

Name: B.

Address: C.

Sold by: D. | Cash: E. | Charge: E. | On Account: E.

Quan	Item	Price	Amount	
F.	G.	H.	I.	
	Subtotal		J.	
	Tax		K.	
Signature: M.	Total		L.	

There are thirteen major parts of a sales ticket. These parts are indicated on the sample sales ticket by alphabetical lettering to suggest the order of completion by the salesperson. These parts with a brief explanation are:

A. Date - Place month, date, and year the purchase was made.

B. Name - Name of customer.

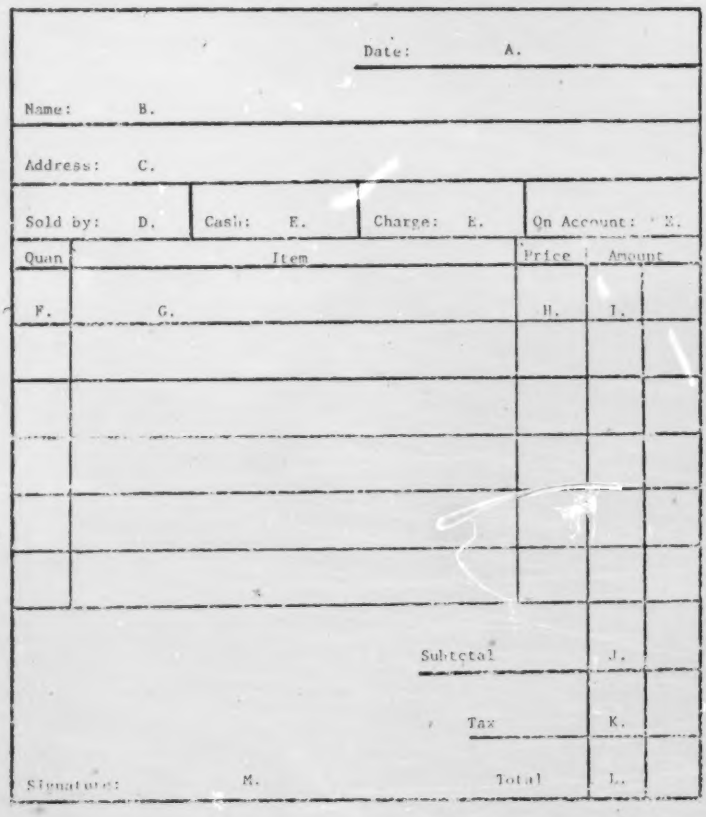
C. Address - Include complete mailing address of customer.

D. Salesperson initial blank - The salesperson making the sale will initial this blank.

E. Type of Sale - Salesperson will indicate type of sale. Use a (✓) or (X) to indicate a Cash, Charge, or if money is to be applied on the account of the customer.

F. Quantity - Salesperson is to place the exact quantity of items purchased in this blank. Avoid the use of dozen, gross, etc., unless this is the

Observe	Read and Follow



Date: A.

Name: B.

Address: C.

Sold by: D. | Cash: E. | Charge: E. | On Account: E.

Quan	Item	Price	Amount	
F.	G.	H.	I.	
		Subtotal	J.	
		Tax	K.	
Signature: M.		Total	L.	

quantity price. Example: 1 pair of post hole diggers should read 1 pr.

G. Item - A brief description of item(s) will be placed in this blank. Example: hand post hole digger.

H. Price per Item - This blank is to include the price of the item per unit price.

I. Amount - This column will show the total numerical amount of the item(s) in that line of the sales ticket.

Note: The total amount on this line is always calculated by multiplying the quantity (F) by price per item (H).

F x H = I

J. Subtotal - The subtotal will be computed by finding the sum of the amounts of the items purchased.

K. Tax - The amount of sales tax is placed in the adjoining line. It is obtained from a tax table using the subtotal amount.

Note: Sales tax in Mississippi may be computed by multiplying the subtotal by .05.

Subtotal x .05 = Sales tax

L. Total - The total is the sum of the subtotal and the sales tax.

J + K = L

M. Signature - The signature of the customer is required on a charge ticket (indicated on line E) but is optional on a cash ticket.

Observe

Read and Follow

Date: January 10, 1978

Name:

Address: 220 Bud Street, Sand Spur, MS 39300

Sold by: DB	Cash:	Charge: X	On Account:

Quan	Item	Price	Amount	
2	pr. Leather work gloves	3.40	6	80
2	pr. Rubber boots	14.60	29	20

Subtotal	36	00
Tax	1	80
Total	37	80

Signature:

N. Example:

On January 10, 1978, Mr. John Dudley of 220 Bud Street, Sand Spur, MS, 39300, entered Circle K Agribusiness Supply charging the following items to his account.

- 2 pair of leather work gloves @ $3.40 each
- 2 pair of rubber boots @ $14.60 each

The salesperson's name is David Bobble and the tax on the sale is $1.80. The completed sales ticket for Mr. Dudley is shown below.

Date:

Name:

Address:

Sold by:	Cash:	Charge:	On Account:

Quan	Item	Price	Amount	

Subtotal		
Tax		
Total		

Signature:

O. Practice

On June 16, 1974, Mr. Ed Blossman of Post Office Box 10, Seva, Mo, 38214, entered Richton Agribusiness Supply charging the following items to his account.

- 2 packages of turnipseed at 50¢ each
- 6 pounds of potting soil at 10¢ per pound
- 1 small can of Sevin garden dust at $1.50 per can.

The sales person is Bobby Widdle and the tax is 16¢. Complete the adjacent form.

Observe

Read and Follow

Date: June 16, 1974

Name:

Address: P.O. Box 10 Seva, TN 0 38214

Sold by: BW | Cash: | Charge: X | On Account:

Quan	Item	Price	Amount	
2	pkgs. turnip seed	50	1	00
6	lbs. potting soil	10		60
1	can Sevin dust (small)	1.50	1	50
	Subtotal		3	10
	Tax			16
	Total		3	26

Signature:

P. Practice Key:

(Check your work.)

V. Post-test and Activities

A. Post-test

On May 18, 1977, Mr. Joe Bloom of 132 Fix-It Drive, Shelton, AZ 99909, entered the agribusiness store in which you are employed and purchased the below items using cash. Given this and the below information, correctly fill out this sales ticket.

-24 Tramisol cattle wormer bolus @ $1.21 each

-1 pair of hoof trimming shears @ $3.20 each

-8 pounds of staples at $ .60 per pound

-Tax is $1.85

-Your initials are T. K.

			Date:		
Name:					
Address:					
Sold by:	Cash:	Charge:	On Account:		
Quan	Item		Price	Amount	
		Subtotal			
		Tax			
Signature:		Total			

C. Activities

Suggested quest:

Visit several agribusiness outlets and observe the common procedures of filling out a sales ticket. Ask the salesperson to explain this procedure to the group.

Appendix C

OUTLINES OF INSTRUCTIONAL CONTENT

IN THE

SPECIALIZED COURSES

CROP PRODUCTION

AGRICULTURAL SUPPLIES AND SERVICES

FARM MACHINERY MAINTENANCE

WILDLIFE AND NATURAL RESOURCES

LIVESTOCK PRODUCTION

FORESTRY

HORTICULTURE

Crop Production

I. Determining principles of farm management

A. Importance of management

B. Income and price determination

C. Selecting and securing a farm

1. Renting

2. Owning

D. Utilization of credit

E. Utilization of labor and machinery

F. Planning farm activities

G. Records and financing

II. Identifying common plants and weeds

A. Common plant identification

a. Life cycle

b. Major use

B. Common weed identification

a. Life cycle

b. Where a pest

III. Using fertilizer

A. Essential elements

B. Secondary elements

C. Analysis

D. Lime

E. Slag

IV. Producing small grains

A. Kind of small grains

1. Importance

2. Trends in production

3. Available markets

4. Suitability to geographical areas

B. Various selection

C. Seed procurement

D. Land selection

E. Fertilization and liming

F. Weed disease and insect control

G. Harvesting and hauling

H. Drying and storing

I. Marketing

V. Producing corn

A. Importance and scope of corn crop

B. Types of corn

C. Cultural requirements

1. Climate

2. Labor

3. Equipment

4. Capitol

D. Selection and improvement of varieties

E. Obtaining seed

1. Quality of seed

2. Amount required

3. Legal regulations on seed

F. Selection of land and preparation of seedbed

G. Seeding

1. Time to plant

2. Methods of planting

3. Rate of planting

4. Placement of seed

H. Fertilizing

1. Nutrients required by corn

2. Sources of nutrients

3. Soil testing

4. Application of fertilizer

I. Cultivation

J. Chemical weed control

K. Control of diseases

L. Control of insects

M. Harvesting, hauling, drying, and storing

N. Marketing

VI. Producing soybeans

A. Importance and scope of soybean production

1. Trends in production and use

2. Available markets

3. Use of beans

B. Cultural characteristics of soybeans

1. Growth requirements

2. Parts and functions of soybean plants

C. Selection of variety and seed

1. Recommended varieties

2. Quality of seed

3. Sources of seed

4. Rate of seeding

5. Legal requirements on seed

D. Equipment requirements

E. Selection and preparation of land

1. Characteristics of soil suited to soybean growth

2. Seedbed preparation

F. Innoculation and treatment of seed

G. Planting

1. When

2. How

3. Rate of seed per acre

4. Depth

H. Fertilization

1. Nutrients needed by soybeans

2. Sources of nutrients

3. Soil testing

4. Liming soil

5. Application of fertilizer

a. Factors influencing herbicide performance

b. Rate

c. Placement

I. Control of weeds

J. Control of disease

K. Control of insects

L. Harvesting and storing soybeans

M. Marketing

VII. Producing cotton

A. Possibilities of growing cotton

1. Importance

2. Trends in production and use

3. Available markets

B. Basic characteristics of cotton growth

1. Parts of cotton plants and their functions

2. Climate requirements

C. Varieties and seed

1. Recommended varieties

2. Sources of seed

3. Storage and handling of seed

D. Soil selection

E. Equipment for growing cotton

F. Preparation of soil

G. Fertilization

H. Planting

1. Rate of seeding

2. Spacing

I. Weed control

J. Insect control

K. Defoliation

L. Harvesting

M. Classing and marketing

VIII. Growing the home vegetable garden

A. Importance of home vegetable gardens

B. Factors in selecting garden site

C. Gardening tools

D. The garden blueprint

E. Preplant soil preparation

F. Selection of vegetable varieties

G. Selection and obtaining good seed

H. Transplanting vegetables

I. Planting the garden

J. Care of the garden

K. Harvesting and processing

Agricultural Supplies and Services

I. Introduction to agribusiness

A. Career opportunities

1. Opportunities for employment in agribusiness
2. Selected specific occupations in agribusiness
3. Requirements for employment and advancement
4. Products handled by agribusiness

B. Orientation to S.O.E.P.

1. The purpose of S.O.E.P.
2. Develop a positive attitude toward S.O.E.P.
3. Plan for entrance and establishment in an agricultural occupation through S.O.E.P.

C. Human relations in agribusiness

1. Understanding yourself
2. Building yourself
3. Selling yourself
4. Communication in agribusiness
5. Developing leadership through FFA

D. Basic economics

1. Why money has value
2. Economic systems
   a. How resources are allocated
   b. How prices are determined
   c. Supply and demand
3. Production time periods
4. Factors of production

E. Organization and functions of agribusiness

1. Importance of a business to a community

2. Functions of an agribusiness

3. Types of agricultural supply business

4. Organizational patterns of agricultural supply business

II. Business procedures

A. Properly complete sales ticket and make change

B. Importance and use of credit

1. Collection and extension

2. Sources

3. Mortgages and notes

4. Checks

C. How selling price is determined

D. Use of business forms for ordering and receiving

E. Use of other forms

F. Use of cash registers and other equipment

G. Inventory

H. Receive and store merchandise properly

I. Need for stock control policies and keeping the business properly stocked

J. Importance of complete and accurate records in the conduct of business

K. Transportation

1. Bills of lading

2. Invoices

3. Selecting types of transportation

4. Channels of distribution

III. Salesmanship

A. How to meet customers

B. How to present supplies and services

1. Retail selling

2. Parts of a sale

3. Sales presentation

4. Telephone courtesy

IV. Product knowledge

A. Feed sales and service

1. Basic economics of livestock feeding

2. Regulations for formulating, labeling, and using feed

3. Formulating rations

4. Methods used to prepare feed

5. Methods and trends in feed merchandising

B. Garden center

1. Groups of products offered for sale and the uses of the products by the customers

2. Types and usage of plant material

3. Factors involved in selling quality seed

4. Varieties, their characteristics, and local use

5. Interpreting information on tags and labels

6. Services offered

7. Comparing products and services offered by employee's company and competitors

8. Find product information quickly

9. Basic economics of home beautification and garden production

10. Help customers solve problems

C. Fertilizer

1. Physical and chemical characteristics
2. Different grades
3. Take soil samples
4. Economic value of fertilizer and future recommendations
5. Advise customers on selection, calibration, and maintenance of equipment
6. Merchandise fertilizer effectively

D. Agricultural chemicals

1. What are agricultural chemicals
2. Agricultural chemical safety
3. Chemical weed control
4. Plant insects and their control
5. Control of fungus diseases in plants
6. Control of livestock pests
7. Control of household pests

E. Farm equipment

1. Job requirements of partsmen
2. Job requirements of salesmen
3. Job requirements of servicemen
4. Understanding and ability to use an operator's and service manual

F. Farm power sales

G. Electric power

1. Electric power in agribusiness
2. Adequate farm wiring
3. Electric motors
4. Materials handling

H. Florist sales

1. Retail shop organization
2. Store layout
3. Florist products
4. Displaying the product
5. Advertising and publicity
6. General plant knowledge
7. Cat flower arrangements
8. Dish gardens and terrariums

Farm Machinery Maintenance

I. Introduction to tractors

- A. Design progress in tractors
- B. Tractor types
- C. Two-wheel-drive tractors

II. Engines

- A. Engine types
- B. Engine output
- C. Internal engine parts
- D. How engine power is developed
- E. Engine air-intake and exhaust systems
- F. Fuel systems
- G. Engine lubricating systems
- H. Cooling systems
- I. Electrical systems

III. Introduction to small engines

- A. Types of small engines
- B. Identification of small engine parts
- C. Functions of small engine parts

IV. Small engine repair

- A. Disassembly of a small engine
- B. Reassembly of a small engine
- C. Overhaul of a small engine

V. Power trains

- A. Mechanical-drive power trains
- B. Clutches
- C. Mechanical transmissions

D. Hydraulic-assist transmissions

E. Hydraulic-drive power trains

F. Differentials

G. Final drives

H. Power takeoff

I. Lubrication of power trains

VI. Controls and instruments

A. Instruments

B. Tractor-movement controls

C. Tractor-implement controls

D. Miscellaneous tractor controls

VII. Safety

A. Pre-operation safety

B. Operating safety

C. Transport safety

D. Preparing the tractor and implement for highway operation

E. How to drive on highway with implement

F. Towing the tractor

G. Transporting by truck or trailer

VIII. Maintenance and storage

A. General maintenance

B. Daily maintenance

C. Periodic maintenance and service

D. Periodic maintenance and service

E. Engine tune-up

IX. Farm machinery management

A. Introduction

B. Measuring machine capacity

C. Improving field efficiency

D. Matching machine size and capacity

E. Estimating power requirements

F. Estimating fixed cost

G. Estimating fuel and lubricant costs

H. Estimating repair costs

I. Total cost for machines and operations

J. When to trade

K. Future capacity needs

1. Calculating and comparing custom work, ownership, leasing and rental costs

X. Introduction to combines

A. What is a combine?

B. Combine types and sizes

C. Self-propelled combines

D. Level-land combines

E. Combine sizes

F. Pull-type combines

XI. Harvesting systems

A. Cutting and feeding the crop

B. Threshing the crop

C. Types of threshing cylinders

D. Threshing cylinder and concave function

E. Threshing cylinder and concave adjustments

F. Effects of separator speed and cylinder-concave settings

G. Determining threshing action

H. Separating the crop

I. Cleaning the crop

J. Handling the crop

XII. Field operation and adjustments

A. Proper operation and adjustments

B. Factors affecting combine harvesting

C. Planning and preparation

D. Harvesting methods

E. When to combine

F. Production capacities of combines

G. Mechanical condition of combine

H. Preliminary setting of combine

I. Field operation and adjustments

J. Operating and adjusting threshing units

K. Determining grain losses

L. Trouble shooting field problems

XIII. Engine troubleshooting

A. Adjusting a carburetor

B. Setting engine time

C. Setting engine points

D. Setting plug gap

E. Arranging plug wires

XIV. Assembly and making equipment field ready

A. Hay baler

B. Grain drill

C. Hay rake

D. Disk

E. Hay mower

F. Hay conditioner

G. Planters

H. Cultivators

I. Tractors

J. Others

Wildlife and Natural Resources

I. Introduction

A. Opportunities in wildlife conservation

B. The importance of wildlife, fisheries, natural resources, and recreation to our society.

II. Career opportunities in

A. Wildlife

B. Fisheries

C. Natural resources

D. Recreation

III. Game and fish laws

A. Game animals and birds

B. Non-game birds

C. Unprotected birds

D. Fresh water fish

E. Gun laws

F. Gun safety

IV. Game animal management

A. Definition of game management

B. Eight properties of game population

C. Squirrels (Gray and Fox)

D. Rabbits (Cottontail and Swamp)

E. White-tailed deer

F. Taxonomy

G. Range and distribution

H. Food habits

I. Food requirements

J. Reproduction

K. Habitat requirements

L. Management programs

M. Parasites and diseases

N. Predators

O. Miscellaneous species

V. Game bird management

A. Mourning doves

B. Bob-white quail

C. Wild turkey

D. Taxonomy

E. Range and distribution

F. Food habits

G. Food requirements

H. Reproduction

I. Habitat requirements

J. Management programs

K. Parasites and diseases

L. Predators

M. Miscellaneous species

VI. Waterfall management

A. Flyways

B. Migration patterns

C. Identification and description of species

D. Taxonomy

E. Range and distribution

F. Food habits

G. Food requirements

H. Reproduction

I. Habitat requirements

J. Management programs

K. Parasites and diseases

L. Predators

VII. Soil Conservation

A. Definition of soil

B. Importance of soil

C. Composition of soil

D. Soil profiles

VIII. Survival in the outdoors

A. What you need for emergencies

B. Travel in the wilderness

C. Where to find water

D. Food for survival

E. Fire and warmth

F. Shelters

G. Signaling for help

IX. Finding your way in the outdoors

A. Types of compasses

B. How a compass works

C. Maps and map reading

D. Basic rules of wilderness navigation

E. Staying on course

X. Fish pond management

A. Basic fisheries management

B. Uses for a pond

C. Selecting pond site

D. Determining pond size

E. Building the pond

F. Stocking the pond

G. Classification of fish

H. Reproduction of fish

I. Water quality

J. Food, feeding habits, and artificial feeding

K. Fertilizing the pond

L. Controlling pond weeds

M. Recognizing and controlling diseases, parasites and predators

N. Pond maintenance

O. Proper harvesting and utilization of fish

XI. Snakes

A. Importance of snakes

B. Poisonous snakes

1. Identification

2. Habitats

3. Food habits

4. Method of envenomization

5. Action of the venom

6. First-aid methods for snake bite

C. Non-poisonous snakes

XII. Water safety

A. Water safety commission

B. Swimming

C. Boat safety and operation

D. Skiing

E. Life saving techniques

XIII. Recreation

A. Opportunities in recreational business

B. Kinds of recreational businesses

C. Determining the feasibility of a recreational business

D. Planning and developing a recreational business

E. Office management for a recreational business

F. Maintenance and operation of a recreational business

Livestock Production

I. Determining possibilities in livestock production

II. Selecting cattle

- A. Characteristics of the major beef breeds
- B. Beef cattle improvement
- C. Selection of the herd bull
- D. Conformation scoring guide

III. Cattle breeding and reproduction

- A. Calf crop record
- B. Artificial insemination and pregnancy testing
- C. Tips for the calving period of 60-90 days
- D. Age at which to breed heifers

IV. Cattle nutrition

- A. Beef cow management check sheet
- B. Winter feeding of Beef Cows
- C. Vitamin A for beef cattle
- D. Planning and balancing rations
- E. Rules of thumb for cattle feeding
- F. Effect quality has on price received
- G. The importance of pastures and roughages for calves
- H. Stilbestrol implants for suckling calves
- I. Pre-conditioning beef cattle
- J. Missouri certificate of pre-conditioning
- K. Feeding replacement heifers at different energy levels

V. Records and record keeping

- A. Cow production records
- B. Breeding records

C. Performance testing records

D. Beef cattle improvement programs

E. Value of performance records

VI. Controlling diseases and parasites

A. Beef cattle health program

B. Diseases

C. Parasites

VII. Facilities for producing and hauling

A. Beef cattle space requirements

B. Advantages and disadvantages of different types of transportation

VIII. Managing purebred cattle

A. Purebred cattle and pedigrees

B. Application of transfer

C. Different breed regulations

D. Identification of cattle

IX. Marketing

A. When to market

B. Shrink and other factors

X. Handling and exhibiting cattle

A. Rope work

B. Instruments and care

C. Blocking, fitting, and showing beef cattle

D. Hoof trimming (beef cattle)

Forestry

I. Occupational opportunities in forestry

A. Importance of forestry

1. Definition of forestry and forestry occupations

2. Changes in forestry as related to demand and use for forest products

B. Scope of forestry businesses

1. Location

2. General nature of the work

3. Trends in functions, employment, and location

4. Qualifications for employment

C. Importance of forestry products

1. Pulpwood

2. Saw timber

3. Veneer timber

4. Piling, crossties, and other wood products

5. Speciality products

6. Benefits other than products

(a) Recreation

(b) Wildlife habitat

(c) Control of erosion and water runoff

D. Kinds of work in forestry businesses

1. Professional

2. Technical

3. Managerial

4. Clerical

5. Sales

6. Services

E. Trends in employment

1. Greater need for persons with education and training

2. Changes in technology demand continuing education

II. Developing leadership for occupations in forestry

A. Importance of leadership in forestry occupations

B. FFA activities which develop leadership

1. Public speaking

2. Parliamentary procedure

3. Meeting other persons

4. Committee work

5. Developing work habits

6. Conducting and participating in meetings

III. Understanding the occupational experience program in Forestry

A. What is an occupational experience program?

B. How the student can become involved in an occupational experience program

C. Placement in occupational experience program

D. Record Keeping

IV. Understanding how trees grow

A. Parts of a tree

1. Vegetative parts and functions

(a) crown

(b) stem or trunk

(c) roots

2. Reproductive parts and functions

(a) flower

(b) seed

B. Variation between species

C. Structure of cross-section of trunk

1. Dead wood

(a) heartwood

(b) bark

2. Sapwood

(a) xylem

(b) phloem

(c) cambium

D. Annual ring and growth

1. Course of difference in rings

2. False rings

E. Methods of reproduction of trees

1. Seed

2. Sprouts

3. Suckers

F. Photosynthesis

1. Definition

2. Purpose as related to growth

G. Nutrient requirements for growth

1. Primary

2. Secondary

H. Water requirements

V. Tree identification

A. Introduction

1. Importance of knowing species

B. Kinds of trees in our area

1. Conifers (gymnosperms)

2. Hardwoods (angiosperms)

C. Classification of trees

1. Need for classification

2. Units of classification

3. Tree names

4. Use of key

D. Characteristics used in tree identification

1. Habit

(a) Definition of habit

(b) Use of habit in identification

2. Leaf characteristics

(a) Shape

(b) Tips

(c) Bases

(d) Margins

(e) Venations

(f) Surface

3. Flowers

(a) Flower structure

1. complete

2. incomplete

(b) Arrangement

4. Fruit types

(a) Simple

(b) Compound

5. Twigs

(a) Buds

(b) Leaf scars

(c) Pith

(d) Spurs

(e) Spines or thorns

(f) Color

6. Bark

(a) Roughness

(b) Color

7. Taste and smell

8. Tree growth characteristics

(a) Shape of crown

(b) Persistence of dead branches

(c) Swelling of lower trunk

9. Site conditions

(a) Topographic features

(b) Soil type, condition, drainage

(c) Surrounding vegetation

10. Range or distribution

(a) Soils present

(b) Climate

E. Collecting specimens

1. How to collect specimens

2. Mounting specimens

3. Care after mounting

VI. Measuring land and timber

A. Introduction

1. Forest inventory
2. Why measure land and timber?
3. Rounding off numbers
4. Abbreviations and notations
5. Preparation of reports

B. Forest surveying
1. Application of surveying
2. Pacing horizontal distances
3. Chaining horizontal distances
4. Nomenclature of the compass
5. Magnetic declination
6. Use of the compass
7. Dot grids
8. Use of maps and aerial photos
9. U. S. Public Land Survey
   (a) History
   (b) Method of subdivision
   (c) 24-mile tracts
   (d) Townships
   (e) Field notes
   (f) Marking survey lines

C. Measuring wood
1. Measuring stacked wood
   (a) Cord
   (b) Unit
2. Measuring by weight
   (a) Advantages
   (b) Disadvantages

D. Log rules and sealing practices

1. Lumber tally vs. log scale

(a) Board feet

(b) Features of board feet log rules

2. Determination of log rules

(a) Mill tally log rules

(b) Scribner log rule

(c) Doyle log rule

(d) International log rule

(e) Overrun and underrun

3. Board foot log scaling

(a) Scaling straight logs

(b) Log defects

(c) Scaling records

4. Weight scaling of logs

(a) Advantages

(b) Disadvantages

E. Measuring standing trees

1. Tree diameters

(a) Diameter tape

(b) Biltmore stick

(c) Calipers

(d) D. B. H.

2. Measuring tree heights

(a) Suunto clinometer

(b) Maga altimeter

(c) Biltmore stick

(d) Merchantible height

3. Girard form class

F. Volume of standing trees

1. Volume tables

(a) Purpose

(b) Local uses standard

(c) Form-class volume tables

2. Advantages and limitations

3. Tally sheets

G. Sales of standing timber

1. Stumpage

2. Method of selling timber

3. Timber sale contracts

H. Timber inventories

1. The cruiser

2. Methods of sampling

(a) Plot cruise

(b) Strip cruise

(c) 100% tally

3. Size of cruise

4. Field procedures

5. Summary of data

I. Tree growth measurement

1. Increase in diameter

2. Increase in height

3. Prediction of growth

VII. Factors influencing tree growth

A. Importance of forest environments

B. Physical factors

1. Temperature

2. Light

3. Air

4. Moisture

5. Soil

C. Biological factors

1. Reproduction

2. Tree form

3. Tree tolerance

4. Past growth

5. Tree hardiness

D. Tree development stages

F. Tree crown classification

G. Forest types

H. Stand density

I. Site index of forest land

VIII. Silvicultural practices

A. What is silviculture?

B. Thinnings

1. Applications

2. Time and amount

C. Cleanings

1. Prescribed burning

2. Cutting

3. Basal spraying

4. Foliage spraying

D. Liberations

1. Girdling

2. Herbicidal treatments

E. Improvement cuttings

1. Sanitation cutting

2. Salvage cutting

3. Pruning

F. Harvest cutting

1. Clear-cutting

2. Seed tree cutting

3. Shelterwood cutting

4. Selection cutting

IX. Reproducing the Forest

A. Why plant seedlings?

B. Methods of reforestation

1. Wild seedlings

2. Direct seeding

3. Cuttings

4. Nursery seedlings

C. Sources of seedlings

D. Considerations in planting seedlings

1. Estimating needs

2. Areas in need of planting

3. Selection of species

4. Care of seedlings before planting

5. Preparation of site before planting

6. Spacing of trees

7. Planting procedure

E. Protecting plantation investment

1. Fire

2. Insects

3. Diseases

4. Other hazards

X. Forest fire - control and use

A. Fire effects and behavior

B. Types of forest fires

C. Effects of fire

D. Fire behavior

E. Fire weather

F. Types of forest fuels

G. Forest fire protection

1. Fire prevention

2. Education programs

3. Law enforcement

H. Forest fire supression

1. What is presupression?

2. Fire fighting methods

I. Protection of timber stands from fire

J. Prescribed burning

1. Why prescribe burn?

2. Types of prescribed burns

3. Prescribed burning plans

XI. Controlling insects and disease

A. Insects which attack hardwood species and their control

B. Insects which attack conifers and their control

C. Diseases which affect hardwoods and their control

D. Diseases which affect conifers and their control

XII. Marketing forest products

A. Economic factors of forestry

B. Cost of forest lands

C. Cost of timber growing practices

D. Timber value

E. Marketing timber

F. Timber sale contracts

G. Forest management plans

1. Purpose

2. Information needed

H. Assistance available in forest management and marketing

I. Stumpage aquisition

XIII. Harvesting timber

A. Felling, limbing, bucking

1. Chain saw

(a) Care and Use

2. Tree shear

B. Skidding and prehauling

1. Skidders

2. Prehaulers

C. Loading

D. Hauling

1. Truck type

2. Trailer or bobtail

E. Calculation of load

F. Labor

1. Needs of workers

2. Working relations

G. Planning the harvest system

1. Establishing needs

2. Performing operations

H. Selecting equipment

1. Selecting equipment according to needs

2. Safe use of equipment

XIV. Use of wood for products

A. Identification of wood

B. Characteristics of wood

C. Use of wood based on characteristics

D. Kinds of products

E. Preservation of wood products

XV. Multiple use of forest land

A. What is multiple use of forest land?

B. Managing the forest for wildlife

1. Native species

2. Habitat improvement

C. Recreational uses of our land

1. State parks

2. National forests

3. National parks

4. Wildlife refuges

XVI. Securing employment in forestry occupations

A. Securing the necessary education and training

B. Locating jobs

C. Applying for a job

D. Traits needed by workers

E. Relations with other workers

F. Changing jobs

G. Advancing in a job

Horticulture*

I. Understanding the parts and growth of ornamental horticulture plants

- A. Main parts, or organs, of plants
  - 1. Vegetative organs
    - a. Leaves
    - b. Stem
    - c. Roots
  - 2. Reproductive organs
    - a. Flowers
    - b. Fruit and seed
- B. Functions of the parts
- C. Kinds of leaves
  - 1. Simple
  - 2. Compound
- D. Kinds of stems
  - 1. Soft stems
  - 2. Woody stems
  - 3. Single woody trunks
- E. Kinds of root systems
  - 1. Taproot system
  - 2. Fibrous-root system
- F. Relation of parts to plant growth, including photosynthesis
- G. Nutrients required for plant growth
  - 1. Primary nutrients

---

*Developed by Project Staff with input from teacher. No changes were made for the second year by the teacher.

2. Secondary nutrients

II. Classifying and identifying horticultural plants

A. Classification of plants

1. Botanical class

2. Life cycle

a. Annual

b. Biennial

c. Perennial

B. Scientific names in identifying plants (binomial system)

C. Methods of plant identification

1. Use of plant keys

2. Comparison of plant characteristics

a. Growth habits

b. Size and shape

c. Leaves

d. Stems

e. Roots

f. Flowers

g. Seed and seed structures

III. Propagating horticultural plants

A. Producing plants from seeds

1. Characteristics of good seed

2. Sources of seed

3. Parts of seed and their function

4. Seed storage

5. Seed germination and viability

6. Planting containers

a. Flats

(1) Group planting

(2) Individual planting

b. Planting boards

7. Preparation of soil or growth media for planting

8. Reading and understanding labels on packages of seed

9. Seeding

10. Requirements for seed germination

a. Moisture

b. Temperature

c. Oxygen

11. Culture of seedlings

a. Environmental requirements

(1) Moisture and humidity

(2) Temperature

(3) Sunlight

(4) Oxygen

(5) Nutrients

b. Transplanting

B. Producing plants from cuttings

1. Types of cuttings

a. Stem

(1) Hardwood

(a) Deciduous

(b) Narrow-leafed evergreen

(2) Semi-hardwood

(3) Softwood

(4) Herbaceous

b. Roots

c. Leaf

d. Leaf-bud

2. Factors affecting success of cuttings, including selection of cutting wood

a. Time, or season, in which cutting is made

b. Age of parent material

c. Treatment of wound area (where cutting is removed)

d. Media for rooting

e. Environmental conditions

(1) Moisture

(2) Temperature

(3) Light

3. Procedures for making various types of cuttings

a. Stem cuttings

b. Leaf cuttings

c. Leaf-bud cuttings

d. Root cuttings

4. Preparation of cuttings for rooting

a. Callusing

b. Wounding

c. Treating with root-inducing material (hormones)

5. Placing cuttings in rooting media

a. Preparation

b. Procedure

6. Care of cuttings during rooting

a. Air (oxygen)

b. Moisture

c. Light

d. Temperature

7. Preparing the cuttings for transplanting

a. Hardening

b. Containers

c. Methods

C. Producing plants by layering

1. Kinds of layering

a. Tip

b. Single

c. Compound or serpentine

d. Trench

e. Mound

f. Air

2. Care of new plants before planting

a. Pruning

b. Hardening

D. Producing plants by budding and grafting

1. Important terms

a. Scion

b. Stock

c. Cambium

d. Callus

2. Budding and its methods

a. T-budding

b. Patch budding

c. Chip budding

d. Inverted T-budding

e. Ring and T-budding

3. Grafting and procedure used

a. Bark grafting

b. Cleft grafting

c. Saw-kerf grafting

d. Side grafting

e. Whip and wedge grafting

f. Bridge grafting

E. Producing plants by division

1. Perennials

2. Bulbous plants

IV. Growing horticultural plants

A. Environmental factors that affect plant growth

1. Light

a. Duration

b. Intensity

c. Quality

2. Temperature

3. Moisture

4. Oxygen

5. Nutrients

B. Plant growing media

1. Soil

a. Texture

b. Composition

2. Recognizing and using soil conditioners

a. Importance of soil conditioners

b. Types of conditioners and their purposes

(1) Sand

(2) Peat moss

(3) Sphagnum moss

(4) Vermiculite

(5) Perlite

(6) Leaf mold

(7) Shredded bark

(8) Sawdust

(9) Calcine clay

c. Soil mixtures

(1) Characteristics

(2) Plant adaptation

(3) Preparation

3. Soil mulches and their uses

a. Definition of a mulch

b. Effect of mulches

c. Kinds of mulches

(1) Organic

(2) Inorganic

d. When and how to apply mulches

4. Soil erosion

a. Characteristics

b. Damages

c. Types and control of erosion

(1) Wind

(2) Water

(a) Sheet

(b) Rill

(c) Gulley

5. Feeding plants through plant-growing media

C. Potting, transplanting, and planting

1. Factors that retard growth

2. Preparation and selection of material and time

3. Understanding methods to use and performing by those methods

D. Understanding and using good management practices

1. Watering

a. Importance

b. Methods used

c. Time and rate

d. Symptoms of:

(1) Over-watered plants

(2) Under-watered plants

2. Fertilizing

a. Kinds of fertilizer available

b. Rates

c. Methods of application

d. Time of application

e. Safety

3. Training plants

a. Pruning

b. Espaliering

c. Other

4. Cultivation

a. Purpose

b. Tools

(1) Hand

(2) Power

c. Methods to use and precautions to observe

V. Construction, maintaining, and using plant-growing structures and equipment

A. Plant-growing structures and equipment

1. Types of structures

a. Lath houses

b. Green houses

c. Hotbeds

d. Cold frames

e. Hotcaps

f. Cloth houses

2. Types of heat

a. Steam

b. Forced hot air

c. Hot water

d. Electricity

3. Types of cooling

a. High pressure fogs

b. Fans

c. Evaporative water cooling

4. Types of ventilation

a. Forced air, including exhaust systems

b. Side sash

c. Roof sash

5. Lighting systems

6. Equipment

   a. Fans

   b. Misting system

   c. Generators

   d. Fertilizer injection equipment

   e. Automatic waterers

   f. Humidity indicators

   g. Temperature alarms

   h. Time clocks

   i. Growing benches

B. Mechanics in horticulture

   1. Maintenance and operation of small engines

   2. Maintenance and sharpening of hand tools

   3. Maintenance of power equipment

   4. Maintenance of heating and cooling equipment

   5. Other

Appendix D

AGENDA FOR

IN-SERVICE TRAINING WORKSHOP FOR TEACHERS

OF

VOCATIONAL AGRICULTURE IN LEAKE COUNTY

Agenda

In-Service Training Workshop for Teachers of Vocational Agriculture in Leake County

Carthage High School
Carthage, MS

July 12-14, 1976

Monday, July 12, 1976

10:00 A.M. Call to order Welcome	 G. G. Powell, Jr. Morris Stuart
10:15 A.M. Purpose and objectives of workshop	G. G. Powell, Jr.
10:30 A.M. "The role and responsibilities of a school administrator in administering programs of instruction including vocational agriculture and other activities."	Kenneth Horn
11:00 A.M. "The role and responsibilities of a County Superintendent of Education in planning and administering a total program of instruction including vocational agriculture in Leake County."	Morris Stuart
11:00 A.M.	Break for Lunch
1:00 P.M. Planning and executing the basic instruction for Vo-Ag students prior to their enrolling in a specialized course of study.	Jasper Lee
2:00 P.M.	Break
2:30 P.M. Scheduling of classes for 2 hour time block--rotation of classes, selection, and recruiting of students.	G. G. Powell, Jr. Morris Stuart
3:30 P.M.	Adjournment

Tuesday, July 13

9:30 A.M. Facilities, equipment, and instructional materials	G. G. Powell, Jr.
10:00 A.M.	Break
10:30 A.M. Planning and executing the course of study, teaching techniques, instructional materials, demonstrations, field trips, etc.	Jasper Lee
11:30 A.M.	Break for Lunch
1:00 P.M.	Planning and developing the course of study (Curriculum)
2:00 P.M.	Break
2:30 P.M.	Continuation of activities above
3:30 P.M.	Adjournment

Wednesday, July 14

9:30 A.M. Assisting students in planning and instigation of their occupational experience programs, Supervising students and placement, follow up.	Jasper Lee Morris Stuart
10:00 A.M.	Break
10:30 A.M. Reports and reporting	G. G. Powell, Jr.
11:00 A.M. FFA and Vocational Agriculture	G. G. Powell, Jr.
11:30 A.M.	Break for Lunch
1:00 P.M. Public relations and its role and its importance in an effective program of instruction.	Jasper S. Lee

2:30 P.M. How Vo-Agriculture Teachers in attendance centers may cooperate and work together to produce an effective program of instruction in the area How Vo-Ag Teachers in Leake County may work together to achieve outstanding results and accomplishments	Charlie Thames
3:00 P.M. Summary and Wrap-Up	G. G. Powell, Jr. Jasper Lee
3:30 P.M.	Adjournment

Appendix E

AGENDA FOR

IN-SERVICE TRAINING WORKSHOP FOR TEACHERS

OF

VOCATIONAL AGRICULTURE IN COVINGTON COUNTY

Agenda

In-Service Workshop for Teachers of Vocational Agriculture
in
Covington County

Collins High School
August 9, 1976

10:00 A.M.	Call to Order	Jasper S. Lee
	Welcome and Introduction	Q. S. Napier
	Review of Past Year	Bennie Robbins, Q. S. Napier, and Jasper S. Lee
	Plans for Next School Year	Q. S. Napier and Jasper S. Lee
	General Discussion on Program for Next Year	All persons
10:50 A.M.	Break	
11:00 A.M.	Planning and Conducting Programs of Agricultural Education	Jasper S. Lee
11:45 A.M.	Lunch	
1:00 P.M.	Reports and Reporting	Bennie Robbins
1:30 P.M.	Supervised Occupational Experience Programs	Jasper S. Lee
1:55 P.M.	Break	
2:05 P.M.	Facilities and Equipment	Bennie Robbins
2:30 P.M.	Public Relations: Working Together for Improved Programs	Jasper S. Lee
3:00 P.M.	Discussion	All persons
3:30 P.M.	Adjournment	

Appendix F

AGENDA FOR WORKSHOP

ON

PROVIDING SUPERVISED OCCUPATIONAL

EXPERIENCE PROGRAMS

IN

AGRICULTURAL EDUCATION

Workshop Agenda

PROVIDING SUPERVISED OCCUPATIONAL
EXPERIENCE PROGRAMS
IN
AGRICULTURAL EDUCATION

Jackson Hilton Hotel
Jackson, Mississippi
March 11-12, 1977

Special Resource Person: Dr. Larry Miller
Department of Agricultural Education
University of Missouri

Workshop Chairperson: Dr. Jasper S. Lee
Department of Agricultural and
Extension Education
Mississippi State University

Friday, March 11

Session I - 2:00 P.M. Persons Attending: Agriculture Teachers, State
Colonial Room Staff, and Teacher Educators

Presiding: Jasper S. Lee
Host: Bennie Robbins

Call to Order and Introductions.	Jasper S. Lee
Welcome.	C. M. Brewer
Purpose.	Jasper S. Lee
Reports on Current Program Activities. .	All Agriculture Teachers

Break: 3:15 P.M.

Session II - 3:30 P.M. Persons Attending: Agriculture Teachers, State
Colonial Room Staff, and Teacher Educators

Presiding: Charlie Thames
Host: J. D. Orr

Introduction of Speaker.	Jasper S. Lee
"The Why and How of SOEP".	Larry E. Miller
Reaction	Dick Robertson
	Mike Keene
	G. G. Powell
Announcements.	David Kittrell

Break - 5:15 P.M.

Session III - 6:30 PM (Banquet) Persons Attending: Superintendents
Barron Hilton Suite Principals, Counselors, Agriculture Teachers, State Staff, and Teacher Educators

Presiding: Ronald A. Brown
Hosts: G. G. Powell and William Gates

Call to Order	Ronald A. Brown
Invocation	Willie F. Jackson
Meal	
Welcome and Introduction	Jasper S. Lee
"The FFA and Learning Through Experience"	Elton Bouldin
"SOEP and Your School"	Larry E. Miller
Announcements	Jackie Nordan

Saturday, March 12

Session IV - Group A - 8:30 AM Persons Attending: Superintendents,
Victorian Room Principals, Counselors, John W. Oren Jasper S. Lee, and David Kittrell

Presiding: C. M. Brewer
Host: Kenneth Horn

Call to Order	C. M. Brewer
"School Administrators and SOEP"	Larry E. Miller
Reaction	Morris Stuart Q. S. Napier Carey Clay

Session IV - Group B - 8:30 PM Persons Attending: Agriculture Teachers
International Room State Staff, Teacher Educators, Jackie Nordan, and Elton Bouldin

Presiding: Willie F. Jackson
Host: Dewitt Clark

Call to Order	Willie F. Jackson
"Developing Career Preparation Training Plans"	Ronald A. Brown
Reaction	W. B. Jones Tom Gatlin J. D. Orr

Break: 9:45 AM

Session V - 10:00 AM Persons Attending: Superintendents, Principals
Colonial Room Counselors, Agriculture Teachers, State Staff, and Teacher Educators

Presiding: John W. Oren
Hosts: Charles Newman and Ed Faurot

Call to Order	John W. Oren
Group Reports - A.	Joe Ed Kea
- B.	Bobby Breakfield
"Making SOEP Work For You"	Larry E. Miller
Reaction	Charles Newman Glen Wells Kenneth Horn

Concluding Statements:

Superintendents	Morris Stuart
Principals	John Williams
Teachers	Max Phillips
Counselors	Martha Shaws
State Staff	Bennie Robbins
Teacher Educators	Ronald A. Brown

Announcements: . . . . . Jasper S. Lee
David Kittrell

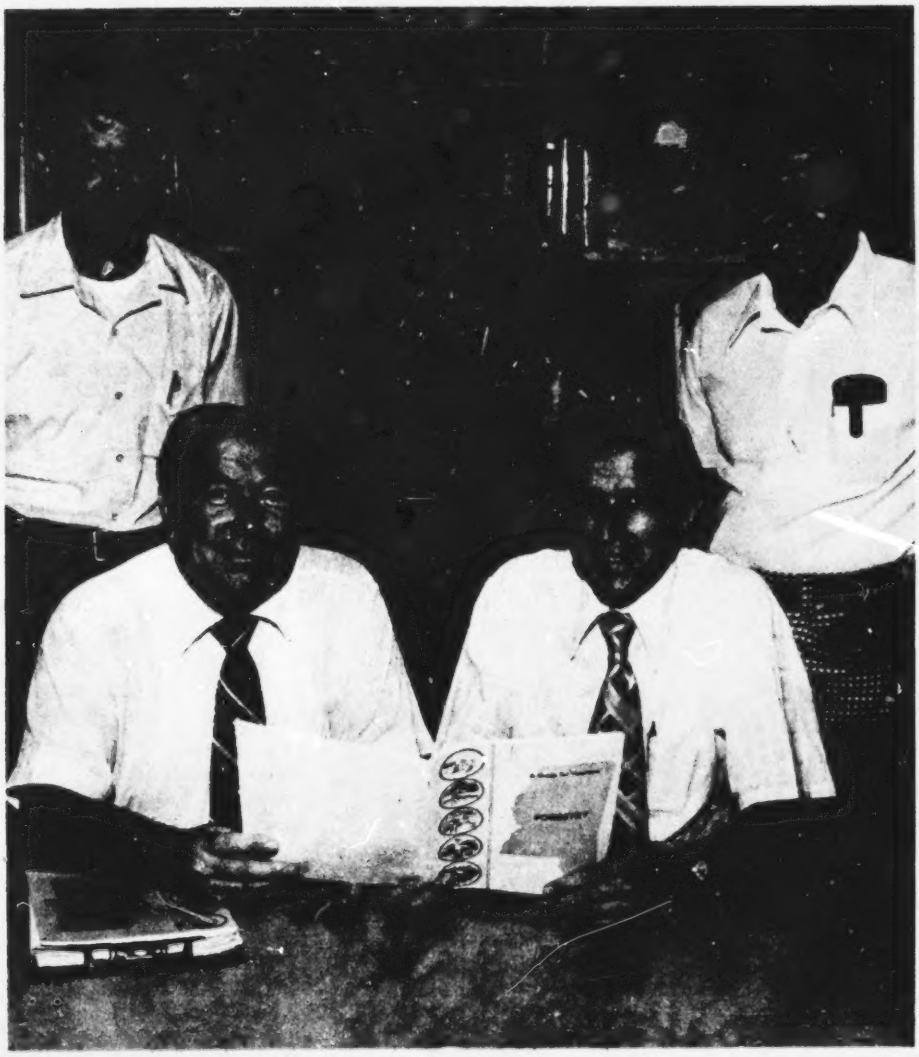
Adjourn at Noon

Appendix G

PHOTOGRAPH APPEARING

IN

THE CARTHAGINIAN



Classes For Ag Teachers

Agriculture teachers, specialists, principals and other officials in the Leake County School System have been attending a three-day in-service workshop at CHS this week to further advance the pilot program of specialized ag training that the schools are involved with. Seated from left are G. G. Powell, assistant state supervisor of ag education; and Dr. Jack Lee, associate professor in the dept. of agriculture and extension education at MSU, who have taught the course. Standing, l to r, are: Lonnie Triklin, wildlife and natural resources specialist assigned to Thomastown and Edinburg; and CHS Principal Joe Edd Kea.

Appendix H

GENERAL FINDINGS OF THIRD-PARTY EVALUATION TEAM

OVERALL REACTION
COMMENDATIONS
RECOMMENDATIONS

General Overall Reactions

The initiation of programs that attempt to provide vocational and career exploration in agribusiness occupations to students in rural communities is a very commendable course of action. In the opinion of the evaluation team, the staff in the Department of Agricultural and Extension Education at Mississippi State University and the supervisory personnel with the State Department of Education have been very responsible in providing in-service education, supervision, and evaluation. These people are to be commended for having the courage to re-direct programs when they are not effectively serving or meeting student needs.

The basic concept of moving teachers rather than students needs further research and exploration. Too often vocational educators ignore the other areas of education and the removal of students from their home schools for three hours per day raises real questions. Consequently, the basic concept is supported as a viable alternative. It is felt that the concept in Leake County has more potential than the concept in Covington County. It is further felt that the adult education concept in Covington County is NOT the proper way to build a sound adult farmer program.

It is suggested than an adult farmer program should be based on a Farm Management Education Program which is at least a four year program.

Farm Management I = Farm Records and Accounts (Farmers are taught to keep a farm account book)
Limited enrollment (10)
One farm visit/mo. all year long.

Farm Management II = Farm Business Analysis (An analysis is made of the farm business)

Farm Management I is the prerequisite
One farm visit/mo.

Farm Management III = Farm Business Reorganization

Based on two analysis a farmer and the Vo-Ag can arrive at a sound course of action.

Farm Management IV = Seminar

Less intense instruction but still analyzing the business each year.

Then an adult program should have systematic (not shot gun) instruction in each of the following phases.

Enterprises:

Crops

Livestock

Mechanics:

Machinery

Farm Power

Building Construction

Young Farmers

It is strongly suggested that adult instruction emerge from this base. The program should have class meetings (in depth) on various subject areas.

It is questioned that crops, livestock and mechanics should be specialities. These could properly emerge from regular vocational agriculture program. If these are specialities, then the course should be developed around a cooperative education framework, and students should have class 1-2 periods per day and placed in jobs on farms and/or business firms to capitalize fully on the occupational preparation.

It is believed that natural resources, agricultural supplies and services, horticulture and forestry are very viable specialities, but every student should

have an opportunity to work in the industry either during the summer or regular school year.

In terms of the staff, several issues are addressed. There is obvious need for designating one teacher in each school as the Department Chairman. This is essential for making someone responsible or accountable. Too often no one was really responsible and no one knew where authority stopped or started and problems were left unresolved. Teachers in some areas (crops, mechanics, supplies and service and wildlife) lacked enthusiasm and understanding of vocational agriculture and the possibilities in their respective areas. The team is convinced that there were opportunities but either they lacked the background or imagination to generate meaningful career experiences for students. In the selection of teachers, considerable care must be given to the teachers technical competence and even more importantly are dedication, imagination and committment to making the program work. It is strongly recommended that the only qualified vocational agriculture teachers be employed. It appears that considerable in-service education was provided teachers but in some instances ideas presented were not implemented.

In terms of facilities and equipment, Carthage and the horticulture program at South Jones could serve as models. The facility at Mt. Olive was neat and clean and attractive and a bit of outdoor cleanup would enhance its appearance. All the other programs could have BOAC projects start with the facility and a few dollars for paint, a little raking and mowing and general cleanup and organization would make these facilities attractive learning areas. In most instances, space was sufficient, but dismal, unpainted, messy facilities and broken equipment greatly distracted possible learning situations.

Local administrators in several schools were most helpful and encouraged quality programs, whereas, others seemed to be unaware and remotely involved in supervision and program monitoring.

This program (Career Preparation in Agriculture Project) has real possibilities for future development. With the tightening and reorganization of some aspects, it is believed it could serve as a real model for delivering agricultural career education to many small rural communities across the United States and greatly benefit many students with interests in the field of agriculture.

Career Preparation in Agriculture Project

Commendations:

1. The effort to stimulate the development and establishment of specialized instructional programs in vocational agriculture is commendable and should be continued inspite of the difficulties encountered.
2. The effort of the Department of Agricultural and Extension Education at Mississippi State University in assisting local teachers and providing materials is very commendable.
3. The project officers should also be commended on the monitoring and for taking action to remove those components which were found to be ineffective and/or incompetent.

Recommendations:

1. The project should be carried out to completion with the necessary adjustments made to increase its effectiveness and educational value.
2. The logic of establishing or encouraging specialized programs in crops and livestock production should be carefully reviewed. Such instruction should logically be incorporated into the more traditional production agriculture program. Presently, all of the units included in the specialized programs of crops or livestock could logically be taught in the regular vocational agriculture programs.
3. The teachers involved in the project's programs in Covington County demonstrated a need for instruction in establishing and conducting adult education classes. Perhaps an undergraduate course in adult education should be utilized at Mississippi State for future graduates and an in-service workshop on adult education should be arranged for those teachers already on the job.

4. In the staffing of future projects, only professionally trained teachers should be utilized. Further, teachers with successful experience should be secured in order to give the project an opportunity for success.
5. The most successful scheduling pattern seems to be one which does not require teachers to move from school to school on a daily basis.
6. Administratively, the project programs should be developed as a part of the existing vocational agriculture program at the local level rather than being simply created without close ties with the ongoing program. Further, someone needs to be designated as department head or lead teacher in each school for purpose of communications and program development and evaluation.
7. The regular vocational agriculture teachers in each site should be assisted in objectively evaluating the teaching performance of project teachers and the overall value of the project program.
8. Requested equipment lists developed by the project teachers should be processed and appropriate equipment secured in a quicker, more orderly manner.
9. An evaluation pattern should be employed which would provide feedback to teachers and administrators on the progress or lack of progress of the program. Such monitoring should be done on a regular basis and decision on continuation made sufficiently early to follow approved employment practices.

General Statement:

The evaluation team members would like to express our commendations to the staff members of the project for their foresight and effort to establish and develop specialized instructional programs. Presently, the horticulture program seems to be developing in an acceptable manner. The forestry program is also developing in a worthy manner. Additional efforts should be made to

establish programs in the areas of: (1) agricultural supplies and services, (2) renewable natural resources (wildlife), and (3) agricultural mechanics.

Appendix I

SUMMARY OF EVALUATION OF MORALE
OF
PROJECT TEACHERS
USING SCORES ON THE
PURDUE TEACHER OPINIONAIRE

Mississippi Vocational Agriculture Teachers and Morale

In promoting the acceptance, initiation, and maintenance of specialized career preparation vocational agriculture programs in Mississippi it is necessary to know the factors which contribute to the success of these specialized programs. A study was made of the morale of teachers associated with the project using the Purdue Teacher Opinionaire. The relationships between selected teacher and job setting characteristic variables and the morale of teachers who provide instruction in career preparation programs in agriculture were studied. As shown in Table 1, the teacher associated with the project had a slightly higher morale level than the random sample of vocational agriculture teachers across the State of Mississippi. The mean scores of the two groups were 314.07, and 311.59, respectively.

When analyzing the relationship of morale scores of the career preparation teachers with the sixteen selected teacher and job setting characteristic variables, three were statistically significant at the .05 level. As shown in Table 2, the variables of teachers' race, annual salary and years of teaching experience were significant with the variable of tenure approaching significance.

Table 1

A Comparison of the Number and Morale Scores of Vocational Agriculture Teachers Participating in the Career Preparation Project and a Random Sample of Peer Vocational Agriculture Teachers in Mississippi.

Group	Number (N)	*Mean ($\bar{x}$)
Career Preparation Teachers	13	314.07
Random Sample Teachers	105	311.59

*Morale scores were computed from raw scores produced by the Purdue Teacher Opinionaire.

Table 2

Relationship of Morale of Career Preparation Teachers With Selected Teacher and Job Setting Characteristic Variables.

Variable	Significance Level
1. Age	.275
2. Race of the teacher	.017*
3. Teaching experience	.037*
4. Tenure	.058*
5. Annual salary	.012*
6. General job satisfaction	.229
7. Educational level	.100
8. Percent teaching time devoted to teaching occupational orientation	.423
9. In-school class enrollment	.341
10. Ethnic background of students	.346
11. Effect of a court order involving the school during the past five years	.246
12. Accesibility of needed supplies	.425
13. Type of school district	**
14. Method in which the department is administered	.415
15. Emphasis placed on the FFA	.172
16. Extent an advisory council is used in the total vocational agriculture program	.320

* Significant at .05 level

**There was no variance within the types of school districts. All Career Preparation Project Schools were county units.